

## **Consortia and Innovative Public Bidding to Olympic Games and FIFA Cup in Brazil**

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**Abstract:** In Brazil, the government created specific rules through the Differentiated Contracting Regime Act (lei do Regime Diferenciado de Contratacao, RDC) as an innovative process to hire the construction works directly linked to the realization of the sports events (2013 Confederations Cup , 2014 World Cup and 2016 Olympics and Paralympics) and the infrastructure works necessary to make them feasible. This study discusses the types of company consortia established in order to meet the defined requirements for the procurement of such works. The case study refers to a stretch of Highway construction called Lot 8B on the BR-381/MG, near to the city of Belo Horizonte-MG, for which the procurement was unsuccessful at the end of two bidding processes.

**Key words:** Public works, construction work budgets, consortium, public bids, road works, design/build

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### **INTRODUCTION**

The Differentiated Contracting Regime (Regime Diferenciado de Contratação, RDC), established in August 2011, guides the procurement processes of the infrastructure constructions for the sports competitions that began with the 2013 Confederations Cup and end with the 2016 Olympic Games in Rio de Janeiro. These included urban, air transport, hotel industry and road transport infrastructure works in the host cities of the events, as listed in Study 1 of Act No. 12.462. According to Bicalho (2013), one of the innovations of the RDC is the integrated procurement of the design/build type which scope covers the technical designs and the construction of the work. In the General Public Bidding Act No. 8666 of 1993 (Lei Geral de Licitações No. 8.666), the companies responsible for drafting the technical designs are prevented from participating in bids intended for contracting the construction works.

The RDC allowed for the integrated hiring of design and construction works (Design/Build) of infrastructure at a distance up to 350 kilometers far from the host cities of the sports events (Almeida, 2014).

This study examines the case of the networks companies, in the consortium format which were

established for the public bidding process to contract design and build of roads works intended to increase the vehicle flow capacity of Highway BR-381/MG, in the metropolitan region of Belo Horizonte, one of the host cities of 2013 Confederations Cup, 2014 World Cup and 2016 Olympic Games. Belo Horizonte city will host some events of the Olympic Games and will be the accommodating center to the sports commission of some countries, e.g., Gram Britain.

The Brazilian government initiated the process to hiring companies for the stretch of road works called Lot 8B by the Notice of Bidding No. 165/2013 (Morano, 2013) and Notice No. 144/2014.

The Lot 8B is located on the BR-381/MG, exiting Belo Horizonte in the State of Minas Gerais (MG), in the direction of Vitoria in the State of Espirito Santo (ES), between the kilometer markers 445 and 458.4.

Even after two bidding processes, there has been no success in procuring the works until January 2016 as can be seen in the administrative proceedings 50600.011160/2013-16 and 50600.018211/2014-11 (Morano, 2013) of the National Department of Transportation Infrastructure (Departamento Nacional de Infraestrutura de Transportes, DNIT).

The consortia of companies established for these bidding processes did not offer prices below the maximum

and secret budget calculated by the DNIT. According to Barbosa, strategic alliances have the potential of generating competitive advantages, since they provide flexibility, lower transaction costs; allow a focus on essentials competencies of the companies and less vertical organizations. However, the business consortiums were unsuccessful in their price proposals

The general objective of this study was to identify the reason why the consortia were not able to offer prices below the maximum secret benchmark set by the DNIT for Lot 8B from the perspective of the companies and consortia. Specifically, we sought to: identify the types of consortia established by the companies to participate in the procurement processes; describe and analyze the reasons given by the company managers for the failure of the procurement; check the opinion of the managers regarding the possibility of success in a new bidding process.

Montes and Reis (2011) indicate that the existing road transport infrastructure in a region or nation is an indicator of its level of development and one of the effects of investments in basic infrastructure is their ability to motivate new investments.

This study reviews the literature related to the cooperation between companies and the resulting competitive advantages. Subsequently, describes the methodology employed in the study to obtain the information required for achieving the objectives. As a final point, presents the final considerations derived from the analysis of the results.

**Literature review:** The literature review covered the topics involving the cooperation network of enterprises, in particular the establishment of consortia between companies and the strategy of the Brazilian government in the implementation of the RDC for integrated contracts for design and construction.

**Cooperative strategies:** Companies seek to establish cooperation networks in a planned manner because of the particular characteristics of their own operation markets, including the need to comply with regulatory conditions and the search for balanced benefits for the participating members of the partnerships (Oliver, 1990; Quandt, 2012).

According to Masquetti *et al.* (2011) competing companies establish consortia of horizontal cooperation networks to obtain complementary competencies or to leverage the internal capabilities which they would not be able to achieve separately. There are also consortia of vertical cooperation networks of non-competing companies, established at different levels of the supply

chain (Moro and Glitz, 2013). In horizontal or vertical partnerships, the assets of the partner companies are complementary if, when combined, they generate a better result than would be generated by each one separately (Gulati *et al.*, 1998).

Child and Faulkner (1998) identify motivations for the establishment of alliances such as the need to deal with changes in the governmental statutes of incorporation or barriers to investments and as a way of achieving vertical integration advantages through an alliance, that seeks contributions from the supply chain partners and competitors (Andrade and Hoffmann 2010).

Consortia are examples of cooperation types between organizational networks that provide them better chances to achieve their objectives successfully. The cooperation enables the development of capabilities and competences to create new products, production processes, organizational models and markets, furthermore to maintaining a competitive advantage in relation to competitors.

In Brazil, the Act No. 6.404/1976 regulates the establishment of consortia between companies. By definition, the consortium is a group of companies that forms a corporate network formalized by a contract and with the goal of realizing a particular venture (Miranda, 2010).

The road infrastructure sub-sector is a place appropriated to create interfirm consortia through partnerships between competitors in the construction industry and in addition, between those that operate at different levels of the civil construction production chain. The construction industry is a sector where establishes many consortia between companies for the execution of public works. They improve the chances of successfully reaching the pursued objectives.

Infrastructure works are fundamental to promote innovation in the government's strategies to grow and develop a region. In a given region, the relationship between innovation and the need for appropriate infrastructure determines the risk associated with investments in these two components (innovation and infrastructure). According to Melton (2013) the products, services, processes, technologies and business model innovations bear the risks related with the basic infrastructures available in the region.

**Government strategy: the RDC and the integrated projects:** Brazil and the Federation Internationale de Football Association (FIFA) agreed on the Contract Specifications for realization of the 2013 Confederations Cup and 2014 World Cup 2014. On October 2, 2009, in the

city of Copenhagen, the International Olympic Committee (IOC) and the city of Rio de Janeiro signed the terms of the document called Host City Contract for The Games of The 31 Olympiad in the year 2016, for the Olympic and Paralympic Games.

This generated construction demands for several infrastructure works which were necessary to hold the sporting events. In addition, they impelled the construction, expansion or improvement of ports, airports, highways, road and public transport systems and the public and private accommodations and others.

To meet these construction demands, the Brazilian government instituted a new legal procedure to streamline the bidding processes for procuring the works. Thus, the National Congress of Brazil approve the Act No. 12.462 of August 2011 which relates to the Differentiated Contracting Regime RDC for works located in a radius of up to 350 kilometers of the locations where the games would be held (Mukai, 2013; Quintella, 2014).

Within the government strategy to speed up the deployment of works, the RDC uses integrated procurement to improve the agility in the procurement and execution of works. The integrated procurement of design and build (D/B) is a type of contract first used in other countries, such as Spain, Portugal, Great Britain and the United States (Heinen, 2014). Its main aspect is that the contracting party delivers the task of developing the design and constructing the work to the same contracted party.

The integrated procurement and the possibility of setting a secret benchmark budget, transfers the risks of costs arising from design errors to the companies responsible for executing the works and eliminates the risk of overpricing due the design failures from the public administration (Celestino, 2012; De Paula, 2013).

According to Rezende, public authorities defend the secret budget as a pretext to avoid the possibility of price increases and cartel forming. However, the bidder body should consider disclosure in special conditions, since detailed budgets allow for greater precision of costs and include the criterion that delimits the contract purpose and once public administration rejects proposals above the budgets of the draft project. The lack of a basic and detailed design before the bidding may distort the maximum benchmark cost in the procurement which prevents the establishment of reliable budgets (Laurenco, 2013).

The government strategy to streamline the procurement and the execution of works required by the sporting events, guided by the RDC, motivated the constitution of a new form of partnership between companies to comply with the technical requirements defined in the bidding notices.

## **MATERIALS AND METHODS**

It is a case study with a qualitative approach. The interviews with the managers of the companies that submitted proposals at one of the unsuccessful bidding processes, provide data about the procedures to hire companies for the road works of Lot 8B at Highway BR 381/MG, near Belo Horizonte at the exit to Vitoria/ES.

The documents of the administrative proceedings No. 50600.011160/2013-16 and No. 50600.018211/2014-11, were analyzed, both from the National Department of Transport Infrastructure (Departamento Nacional de Infraestrutura de Transporte, DNIT). The documents of the administrative proceedings are available for public consultation at DNIT's General Coordination of Register and Bids (Coordenacao Geral de Cadastro e Licitacao) that clearly show each of the participating companies of the two bidding processes and the arrangement of the companies grouped in consortia.

The purpose of the study was to describe the factors that led to the failure of the two bids for the procurement of the works at Lot 8B. This was a case study related to the procurement process. The units of analysis was the consortia and companies participating of the bid processes of Notice No. 165/2013 and Notice No. 144/2014, referring to the host cities of the 2013 Confederations Cup, 2014 World Cup and 2016 Olympic Games.

Research procedures include interviews with one manager of each participating company or consortium in the two bidding processes in order to identify the reasons for the failure of the procurement attempts from the perspective of the companies and suggestions for a future attempt to hiring to be successful.

The research also included consults of the laws that guide the bidding processes for the procurement of works in Brazil.

All information transcribed for this study including the mentioned companies, is available in public documents which eliminates the secretive nature common in this type of research. However, it keeps protected the identity of the respondents who provided their opinions on the questions.

### **Information gathering and analysis**

**Notice No. 165/3013:** Through the consultation of the bidding documents contained in the administrative proceeding 50600.011160/2013-16 became clear that the purpose of the bidding Notice No. 165/2013-00 was the procurement of companies for the basic and detailed construction designs and the execution of works to

**Table 1: Participating companies and consortia of the bid, Notice No. 165/2013-DNIT**

Consortium	Company	Type of consortium	Consortium name	Companies	Area of expertise
1	1	Isolated company	Construcap CCPS Engenharia e Comercio S.A.	Construcap CCPS Engenharia e Comercio S.A.-FOCAL	Construction
2	2	Horizontal and vertical	Consortio Cowan/ARG/Strata	Construtora Cowan S.A.-FOCAL	Construction
	3			A.R.G. Ltda.	Construction
	4			Strata Engenharia Ltda.	Design
3	5	Horizontal and vertical	Consórcio HAP/ Parssons (CT Main)/Convap/Planex	HAP-Engenharia Ltda.-FOCAL	Construction
	6			Convap-Engenharia e Construção S/A	Construction
	7			Planex S/A Consultoria de Planejamento e Execucao	Construction
	8			Parsons CTMAIN Projetos de Infraestrutura	Design
4	9	Horizontal and vertical	Consortio Queiroz Galvao/ Mendes Junior/ Serveng/ Consol	Sociedade Simples LTDA	
	10			Construtora Queiroz Galvao S/A-FOCAL	Construction
	11			Mendes Junior Trading e Engenharia S.A	Construction
	12			Serveng Civilsan S.A Empresas Associadas de Engenharia	Construction
	12			Consol Engenheiros Consultores	Design

Developed by the author based on the bidding process documents

improve the capacity of Highway BR- 381/MG, between the cities of Belo Horizonte and Governador Valadares, divided into 11 construction lots. The Lot 8B is the one situated closest to the city of Belo Horizonte.

For the specific case of the bidding process for Lot 8B, this study observed the participation of 11 companies grouped into three company consortia and one competitor as isolated company, as listed below:

- A consortium formed by the companies Queiroz Galvao (builder), Mendes Junior (builder), Serveng (builder) and Consol (designer)
- A consortium formed by the companies Cowan (builder), ARG (builder) and Estrata (designer)
- A consortium formed by the companies HAP (builder), Parsons-CT Main (builder), Convap (builder) and Planex (designer)
- The company Construcap (builder)

Table 1 indicates the types of consortia formed according to the classification described by Gulati (1998), in which the cooperation networks between companies seek to provide access to critical resources of complementary assets and according to these authors, may be horizontal and vertical in relation to the position of the focal company in the supply chain

The analysis of the bidding process documents of Notice No. 165/2013 revealed that 11 companies joined in three consortia, simultaneously vertical integration of upstream supplier (design suppliers) and horizontal (competitors) and an isolated company.

For judging and choosing the best proposal submitted by competitors, the bidding process utilized the criterion of lowest price combined with the best technical proposal. According to the criterion of Notice 165/13, the Price Proposal Score (Nota da Proposta de Preço, NPP) had a weight of 70% in the final score (Nota Final, NF)

while the Technical Proposal Score (Nota da Proposta Técnica, NPT) had a weight of 30% in the NF. In order to calculate the NPP, the tenderer who submitted the lowest overall price obtained 100% of the NPP while the others had their percentages reduced as a function of the value in excess offered by them when compared with the lowest value offered.

To guide the calculation of the NPT, the bidding established criteria depending on the proof of previous experiences of the participating companies. The criteria were those established on pages 49-55 of Notice nº 165/13. Based on these criteria, the bidding commission constituted by the DNIT calculated the NPT of participants, as presented in Table 1.

According to the criteria defined in Notice No. 165/13, the highest final score was obtained by the proposal presented by the consortium formed by the companies Queiroz Galvao, Mendes Junior, Serveng and Consol, according to the final result taken at the first negotiation round of proposals submitted by bidders. The price proposal of this consortium's bid amounted to R\$ 349,604,391.00 and the NF was 92.37%.

However, the bidding commission informed to the consortium that the offered price exceeded the (secret) maximum limit established for Lot 8B. The item 6.1.10 of Notice No. 165/13 establishes that the maximum value (overall price) that the DNIT is willing to pay for the execution of the services falling under this bid, is equal to the overall value estimated by public administration and that DNIT commission expected to disclose at the end of the process. According to this criterion, the bidding committee rejected the proposal of the consortium with the best Final Score (NF).

Therefore, the bidding commission called upon the bidders for one more round of negotiations in order to reach a proposal with a value below the established maximum.

Table 2: Final score results of the proposals of the competitors of notice No. 165/2013

Company Consortium	1st negotiation round				2nd negotiation round		
	Technical proposal score (NPT) weight 0.3 a = IIc ÷ c (%)	Price proposal \$ b	Price proposal score (NPP) weight 0.7 c (%)	Final score (NF) d = a×0.3 + c×0.3 (%)	Price proposal \$ e	Price proposal score (NPP) weight 0.7 f (%)	Final score (NF) g = a×0.3 + f×0.7
Queiroz Galvao (builder), Mendes Junior (builder), Serveng (builder), and Consol (designer)	100.00	349,604,391	89.13	92.39	300,000,000	81.0	86.70
The company Construcap (builder)	71.00	311,600,000	100.00	91.30	243,000,000	100.00	91.30
Cowan (builder), ARG (builder) and Estrata (designer)	100.00	390,000,000	79.90	85.93	390,000,000	62.31	73.62
HAP (builder), Parsons-CT Main (builder), Convap (builder) and Plane (designer)	100.00	434,820,086	71.66	80.16	434,820,086	55.89	69.12

Administrative proceedings No. 50600.011160/2013-16-DNIT, IIc refers to the value in column c, offered by the consortium in line II

As shown in Table 2, in this second negotiation round two of the participants offered discounts in relation to their respective proposals in the first round. The consortium Queiroz Galvao, Mendes Junior, Serveng and Consol submitted a new proposal with the value of R\$ 300,000,000.00. The company Construcap, however, submitted a new proposal with the value of R\$ 243,000,000.00 which resulted in the highest Final Score (91.30%) among the tenderers. The average exchange rate US Dollar (US\$) to Brazil Real (R\$) was R\$ 2.35 to each US\$ 1.00, for the period of tenders.

The decision of Construcap to not establish a consortium with specialized design companies significantly reduced its competitive power, as reflected its low technical proposal score (71%).

Therefore, given the judging criteria laid down in the Notice, the creation of a consortium before the bidding process proved to be a competitive advantage for the submission of tenders.

In the second negotiation round, even after considerable discounts, with the company Construcap reducing its initial price proposal by R\$ 68,600,000.00, the bidding commission once again informed that the lowest bid price offered still exceeded DNIT's maximum benchmark, at which time the competitors declared not being interested in further reducing the values proposed. As they were unsuccessful in negotiating the prices offered, the bidding commission, following the bidding rules, informed the withdrawal of the procurement process for the road works of Lot 8B.

Despite the withdrawal of the process for Lot 8B, it is clear that the company Construcap attempted to offer a considerable discount in the second negotiation round as a means of compensating for its Low Technical Proposal Score (71%). If it had offered a value below the maximum limit, it would have successfully reached its objective, but this could have caused problems in the future since there are indications that the motivation to the discount had just the goal of winning the bidding, in detriment of the correct application of budgetary techniques.

With respect to the reasons for the failure in procuring Lot 8B from the perspective of the construction companies, it was declared that the determination to maintain the maximum base budget of the DNIT secret, even after it became clear that the lowest proposal still exceeded this maximum value, contributed to hiding some peculiarity identified by the DNIT that the competitors were potentially not taking into consideration.

Construcap formally expressed its interest in the disclosure of the maximum budget but the DNIT informed that it would not do to preserve the secrecy for the future competitive bidding process. According to the Construcap statements, the disclosure of the budget ceiling and of the calculation logs, could ensure the offering of a proposal effectively compatible with budgetary criteria, or at the least reveal incompatibilities of the DNIT budget through the comparison between each one of adopted criteria.

Construcap explained that its proposal was in accordance with the values quoted in the market and it could not be summary discarded with the pretext of being

Table 3: Final results to the proposals of the competitors to Notice No. 144/2014

Company/Consortium	Price proposal (R\$)	-----Negotiation 1(R\$)-----	Negotiation 2(R\$)	Negotiation 3(R\$)
Torc Terraplenagem Obras Rodoviaras e Construcoes Ltda.	460,000,000	300,000,000	-	-
Empresa Construtora Brasil SA.	380,000,000	379,000,000	350,000,000	340,000,000
Alka Brasil Industria Comercio Importacao e Exportacao	575,587,840	-	-	-

Administrative proceedings No. 50600.018211/2014-11-DNIT

above the reference value without first making this value public and duly checking it. Nevertheless, the bidding commission did not accept the company's request.

The temporary secrecy of the budget drafted by the procuring body has the objective of avoiding collusion in the bids, preventing that participants win the bid with minimum discounts in relation to ceiling value. On the other hand, the lack of disclosure excludes the possibility of a broad review and questioning regarding the correct link between the project and the budget.

**Notice No. 144/2014:** After consulting the bidding documents contained in the administrative proceedings 50600.018211/2014-11, it was noted that the objective of the invitation to bid No. 144/2014-00 was the hiring of companies for the detailed construction designs and the execution of works to improve the capacity of Highway BR- 381/MG, between the cities of Belo Horizonte and Governador Valadares, specifically for lot 8B which remained from Notice No. 165/2013. However, some services were included in Notice No. 144/2014 such as expropriation and resettlement, so that there was no correspondence between the total budgeted to works object of the biddings No. 144/2014 e No. 165/2013. There was the participation of three competitors, as follows:

- Torc Terraplenagem Obras Rodoviaras e Construcoes Ltda
- Empresa Construtora Brasil SA
- Alka Brasil Industria Comercio Importacao e Exportacao

The bidders offered their price proposals electronically through an especially environment created, where the public interested could follow. The Table 3 shows the prices offered.

The lowest price as single judging criterion facilitated the isolated participation of construction companies, since the technical certificates of the design companies did not contribute to increasing the chances of winning the bid.

The company Construtora Brasil S.A. presented the lowest overall price of R\$ 380,000,000.00. The Notice No. 144/2014 did not use technical scoring criteria. The selection criterion for the most advantageous proposal

was the lowest overall price, different from the previous notice (No. 165/2013) which selected based on the technical score and price.

The bidding commission informed to Construtora Brasil that the offered price exceeded the maximum benchmark limit. The item 8.5.3 of Notice No. 144/14 establishes that the proposal offered will be declassified if the price exceeds the estimated budget for the procurement of Lot 8B.

Even after the third negotiation round, when Construtora Brazil reduced its initial offer by R\$ 50,000,000.00, the bidding commission once again informed that the lowest price proposal offered was still above DNIT's maximum benchmark.

As they were unsuccessful in negotiating the prices offered, the bidding commission had no choice but to inform the withdrawal of the procurement process for the road works of Lot 8 B.

The failure of the second attempt to procure the works for Lot 8B with significantly different criteria than the conditions of the previous bid (Notice No. 165/13), serves to validate the opinion of the managers interviewed, who stated that the benchmark budget was not aligned with the execution conditions of the deployment site of the works, as can be seen below.

**Respondent 1:** All the other construction lots had a winning company with a price below the maximum limit. This indicates that there are factors involved with lot 8B that are preventing the success of the bids. The probable reason is that the maximum benchmark budget did not consider the fact that Lot 8B situates in an urban area with an intense volume of traffic. The budget is secret, so there is no tangibly way to verify the difference between the lowest proposal and the upper limit.

**Interviews with the company managers:** In order to reach the specific objectives, this study conducted interviews with the managers of the participating companies of the two bidding processes.

When asked about the reasons that led to the decision to do not form company consortia for the participation in the bidding process guided by Notice nº 144/2014, the respondents stated that:

**Respondent 1:** The greatest benefit of company consortia should be the gain resulting from the sum of their competencies and the leveraging of the common capabilities of the consortium members. However, most times, the establishment of consortia only sought to comply with the technical capability requirements of the notice, through technical certificates registered in the Regional Engineering and Agronomy Council (Conselho Regional de Engenharia e Agronomia, CREA) which demonstrate the deployment in the recent past of works with quantity compatible with the bid notice requirements.

**Respondent 2:** The partnerships to comply with the public notice requirements outweighed potential partnerships that could bring beneficial economic value to the established consortia. There would be no possibility of participating in the procurement process without first meeting the technical requirements of the notice.

**Respondent 3:** The company consortia established for Notice No. 165/2013 were not the first natural choices to the enterprise. The first criterion in search a company to form a consortium was to proof the technical expertise required by the notice, hence with little contribution for the ability to offer a lower price.

**Respondent 4:** The level of requirements of Notice No. 144/2014 favored the participation in the bidding process without the need of prior formalization of company consortia. Nevertheless, we counted on the support and active participation of design companies which really generated a benefit offered in the proposal.

**Respondent 5:** At de Notice No. 144/2014, we did not enter formally into partnerships with construction companies, but we worked together in the development of the technical designs [...].

The interviews with the managers of the bidding companies reveal the creation of vertical networks with a design company, although not formalized during the bidding process of Notice No. 144/2014.

Relating to the failure in attempts of hiring companies for the deployment of the road works, the respondents stated that the secret budgets prevented the identification of factors that might have caused a difference between the companies' proposals and the maximum limit, as shown below.

**Respondent 3:** Clearly, it is a problem related to the calculation of the maximum benchmark budget. The draft project of the bidding notice defines the type of pavement structure and provides sufficient information so that the

budgeteers companies can track and measure the maximum benchmark adopted by the DNIT to each of the two bidding. We simulated for Lot 8B the same budgetary criteria adopted by the DNIT to the other lots of work and got our own maximum reference value which was less than the value we proposed in the bidding. The DNIT should present the budgeted amount including the calculation logs, to evidence the differences between the budget presented by the companies and the DNIT budget. We conclude that is unfeasible to apply the same criteria to the Lot 8B, since this Lot is located in a densely urbanized area.

**Respondent 4:** There were changes in the draft-engineering project between Notice No. 165/2013 and Notice No. 144/2014. Thus, there is no correlation for comparison between the proposals made in the two bidding processes. In the first process, the lowest value proposed was R\$ 243,000,000.00. In the second case, the lowest value was R\$ 330,000,000.00, just one year after the first bidding. This happened due to the modifications in the draft designs. Some services were included in the second bidding notice, as well as other changes in draft. What is certain is that in both cases DNIT budgets were far below from what would be reasonable in view of the site conditions of Lot 8B which is an urban area with a large amount of interference.

Regarding a further procurement attempt, the managers participating in this study stated that the problem seems to occur because of intervening factors of site works not considered in the budgets drafted by DNIT. Therefore, if the benchmark budget remains defined according to the same criteria, the lowest price in any future bidding should also exceed the maximum limit.

**Respondent 5:** Lot 8B is the stretch immediately before Belo Horizonte's ring road. This is a stretch of crucial importance to avoid highway segments with slow flow of vehicles. It should be sufficient motivation for the parties involved to identify budgetary slippage. Without a debate between the DNIT and the companies, probably in a future bidding the process will not achieve success.

**Respondent 6:** A third bidding process, without modification of the budgetary criteria, will lead to an equal outcome as the two previous proceedings. The DNIT bothered to change the scope of the previous failed biddings in order to mischaracterize the connection between the budgets of the two contracting processes and maintain the confidentiality of the maximum total price, but it did not address the most important factor, i.e., to consider the adverse conditions of Lot 8B.

Table 4: Inferences and summary of the formats of bidding participants in the bids for lot 8B

Specific objective	Notice	No. of Participating companies	No. of formalized companies	No. of isolated companies	Type of Network in the Consortium Format	Degree of Formalization
Types of Consortium	165/2013	12	3	1	Horizontal and vertical	Formally established for the bid
	144/2014	3	0	3	Vertical	Informal
<b>Inference of the interviews</b>						
Two failed attempts	The secret budgets prevented the identification of what could be causing the distortion between the companies' proposals and the maximum benchmark					
Potential future attempt	If the benchmark budget continues drafted according to the same criteria, a future bid will also not succeed in procuring the proposal with the lowest value					
Developed by researchers						

**Respondent 7:** The worst thing that could happen in a future bidding would be a company to offer an overall price below the maximum benchmark without the DNIT considering the real conditions of the 8B stretch. In this case, it should mobilize an intensive inspection to prevent the execution of low quality services below the required for this job, because of the low contract prices.

## RESULTS AND DISCUSSION

Table 4 summarizes the inferences related to the type of network between companies that participated of the two bidding processes for Lot 8B. It also reveals, from the perspective of the companies, the reasons for the failure of the two attempts to procure the builders and the considerations to improve the chances of success in a future bidding for the Lot 8B.

The DNIT conducted the two bidding process to hire technical projects and construction works according to the design/build project delivery method, according to the legal precepts of the integrated RDC. The public administration drove these two bidding processes with substantial different rules. Through the application of technical and price scores as selection criteria, the first notice established rules that encouraged the formation of consortia between companies. In the second notice, the absence of the technical score criterion eliminated the importance of establishing a consortium in the measurement of the most advantageous proposal.

The RDC was unable to prevent procedures with clear evidences of interest in discounts exclusively to win the bidding event, to the detriment of budgetary fundamentals. In the negotiation phase, the company Construcap offered a discount of 22% (R\$ 68,000,000.00), indicating an attempt to reverse the effect of a low technical score (71%). The discount of R\$ 50,000,000.00 offered by Construtora Brasil in the second bidding process also indicates that the company decided to accept or trust in the amount budgeted by the DNIT, given the magnitude of these discounts.

The discounts offered create opportunity to discuss the proposals with insufficient price levels to guarantee the implementation of object contracted. The respondents

were resolute in their opinion that the DNIT budget was not aligned with the reality of the work local which points to the interest of winning the contract, given the discount level of the tender offers, even with prices that might require future value increases to complete the works, or lead to a reduction of the technical quality of the engineering solutions which is an inherent risk to integrated contracts in the project delivery method of design/build type.

The secret RDC budget in the two bidding processes was not able to ensure sufficient competition among the tenders to achieve a successful procurement for Lot 8 B which corroborates to the understanding of Bicalho (2013) that the absence of a basic or detailed design prevents the establishment of reliable budgets with imprecisions that may originate from both the bidder public agency and the tenderers.

The perpetuation of the bidding processes will not bring gains to the highway user. The alignment of the budgetary criteria used by the public authorities and the companies, even if a future bidding process maintains the integrated RDC (design/build), could identify the factors that are frustrating the attempts to procure the works, especially because of the eminent risk of having a 13.5 km stretch of single lane road in the middle of a 300 km double lane stretch.

## CONCLUSION

The objective of the study was to identify the reasons for the failure in the two attempts from the perspective of the participating companies and consortia in the public bidding process, who proposed values that were insufficient to meet the price acceptability criteria defined in the requirements of the public notices. The study indicates the existence of a mismatch between the definitions of the draft project and the maximum benchmark budget of the procuring body.

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