

# **Public Private Partnerships in Highway Construction**

Author:

Alan Ruck

Arizona State University

amruck@asu.edu

## **Essay Topic – Road Financing**

*Governments around the world are turning to Public-Private Partnerships (PPP's) as one solution to the challenge of funding road infrastructure. Provide an example of a PPP arrangement in a developed or developing country and what factors led to its success or failure? What lessons can be learned from this experience?*

## **Introduction**

Traditionally governments across the world have been the principal provider of infrastructure (in terms of both financing and constructing) within their respective countries. However, over the last few decades this position has begun to change. Aiming to reduce debts, yet at the same time to improve and expand upon existing infrastructure, governments have been experimenting with inviting private sector firms to enter into long term contractual agreements which require the private firm to finance, construct, and/or manage a public sector infrastructure project on behalf of the government body. This type of arrangement is referred to as a Public-Private-Partnership (PPP) (Grimsey, D., & Lewis, M., 2000).

PPPs are effective at producing new infrastructure without a large upfront capital investment on the part of a government agency. However, PPPs are not without risks and are not always successful. The biggest potential downfall stems from the fact that public and private entities have very different interests. In the viewpoint of the public sector, the objective is to

ensure that the money spent on infrastructure has been utilized economically and effectively, essentially getting a good “value-for-money” on their project. On the other hand, private sector participants wish to maximize the profits over the entire contact life of a PPP. Furthermore, private companies are much more wary about carrying risks than government agencies. Relating this to PPP projects, this means that private sector participants usually push for high premiums to accept risk, ultimately increasing the cost for the public sector partner. The goals of public and private partners in PPPs are conflicting, and this is the underlying problem of such arrangements (Hodge, G., 2004).

## **Selected Case Studies**

The projects selected for the focus of the essay have been limited to transportation projects, and more specifically highway construction and maintenance projects.

### **Highway 407 Express Toll Route (407 ETR): Canada**

The “Highway 407 Express Toll Route (ETR)” located in the province of Ontario, Canada is a 108 kilometre (67 mile) toll highway that runs across the north of Metropolitan Toronto. The highway construction project was a Public Private Partnership between the Province of Ontario and a private consortium. Originally, the consortium was to be responsible for design, construction, financing, and maintenance of the highway with a lease term of 99 years in which they are permitted to collect tolls from users of the roadway.

The request for proposals (RFP) for the highway was announced in 1993, at a time when the province was emerging from a recession and unable to finance such a large infrastructure project. Originally, the RFP detailed that the province would be responsible for land acquisition costs, while the private partner would provide financing, guarantee a maximum construction price, and operate the highway. The private partner would be compensated in the form of toll

revenues, however traffic levels and toll revenues were not guaranteed by the government (Vining, A., & Boardman, A., 2008).

Responses to the RFP revealed that private partners were very reluctant to assume financing risks as well as construction and operating risks, especially considering that no toll revenue guarantees were being offered. Due to the lack of interest from the private sector, the province assumed financing of the project, and also retained the operational risks during the first eighteen months (Vining, A., & Boardman, A., 2008).

Eventually the operating rights for the highway were sold to a Canadian-Spanish-Australian consortium for \$3.1 billion in 1999 on a ninety-nine year lease term. The contract set a maximum toll rate for the first year of operation. Initially, a base traffic flow was set based on the peak-hour traffic volume and it was assumed this would grow by one to three per cent a year. If traffic volumes exceeded the growth assumption, tolls could be raised without restriction; however if volumes were lower than predicted and tolls were still raised, the province could impose a penalty. As of 2008, tolls have been raised six times, and the consortium has recently announced it intends to raise tolls again. These toll increases have dampened the Highway 407 volumes, resulting in increased congestion levels on the adjacent roadway network (Vining, A., & Boardman, A., 2008).

In 2004, the Province of Ontario filed a lawsuit against the consortium claiming that it had breached its contract by raising tolls without the permission from the government. The court sided with the consortium and even an independent arbitrator agreed that the consortium had the right to raise tolls without authorization from the province. However, in 2005, Ontario and the consortium came to an agreement where the consortium agreed to implement a “customer benefit program” which reduced tolls by up to fifteen per cent for 100,000 frequent users over the next

four years and provided discounts for truck drivers during evenings and weekends. As a concession, the province agreed to withdraw its court case and demands for a toll rate reduction. The agreement allowed the consortium to further increase tolls, after the customer benefit program had been implemented for frequent users (Vining, A., & Boardman, A., 2008).

The Highway 407 was constructed in a timely fashion and without major cost overruns and currently generates about 350,000 daily vehicular trips. Land acquisition and construction costs were reduced by utilizing innovative design features, such as shorter entrances and narrow radius ramps, and the conversion of dual exit lanes to a single exit lane and the use of asphalt paving rather than concrete. In the early stages of design there were concerns that these changes could result in a lower safety rating for the highway, however there has been little evidence of this in practice (Vining, A., & Boardman, A., 2008).

The main downfall of the Highway 407 project as a PPP was the failure of the government body to effectively transfer financing risks to the private partner. The construction phase became a conventional highway construction project with the private partner building a fixed-price construction project. Over the course of the highways lifetime, it has become apparent that the consortium operating the highway is more concerned in maximizing profits rather than easing congestion levels in the Metropolitan Toronto area; which was the main driving force for the highways construction.

### **Highways A2 and A4: Poland**

In the early 1990's Poland's highway network consisted of only 199 km and not a single four lane highway existed in the entire country. The country's inadequate road network was recognized as a key factor limiting its economic development and the government was placing a

high emphasis on the rapid development of its highway system. In 1993, the government produced a plan to build 2,600 km of highways by 2005, and it was assumed that this could be accomplished through the use of PPP's (Brenck, et al., 2005).

The first PPP highway project undertaken in Poland was the A4 which was to link two major cities in southern Poland, Krakow and Katowice. The first phase of the project consisted of an extensive rehabilitation of the existing highway and its operation and maintenance. The contract for the project was signed in 1997 and put into operation in 2001. The financial incentive for the private partner was solely based on the collection of toll revenues. The second stage of the project, which consisted of rehabilitating a major bridge, turned out to be more difficult, mainly because of lower than projected traffic volumes and difficulties in raising the finance for this phase of the project. Overall, the commercial success of the A4 is still doubtful (Brenck, et al., 2005).

Another PPP highway project in Poland is the A2, linking Warsaw to Poznan and the German border at Slubice. With an estimated construction cost of \$870 million (Euros) the A2 is the largest Public-Private-Partnership transportation project in Poland. Construction for a 150 km portion of the A2 was awarded in 2000, the contract is for a 40 year lease term and includes the right for the private partner to charge tolls. Construction commenced in 2001, and is now operational. However, the trouble is that the highway experiences very low traffic volumes. Only a small number of private users are willing to pay the high toll fees. It is estimated that 60-80% of truck drivers bypass the tolled stretch of the highway to avoid the tolls. Currently, the government and private partner are in the process of negotiating compensation payments due to the lack of toll revenues being generated. This has put doubt on the completion of the remaining

portion of the A2 highway. Potential private partners are extremely wary to invest the large capital required when it appears they will receive minimal toll revenues (Brenck, et al., 2005).

The most significant problem encountered during the PPP highway project undertaken in Poland was the lack of toll revenues generated. Lower than expected traffic volumes lead to extremely disappointing toll revenues making private partners wary to continue to be involved in highway construction projects in which their returns were not guaranteed.

## **Conclusions**

Public Private Partnerships are an alternative public agencies can utilize to construct large transportation infrastructure projects when they lack the capital themselves. However, as seen in the case studies mentioned previously, these types of arrangements do not come without risks. As seen in the Highway 407 project in Canada, the reluctance of the private partners to take on substantial risk and their drive to maximize profits had a negative impact on congestion levels in the greater Toronto area, which was the main goal of the project. In Poland, low toll revenues from low traffic volumes made private partners wary of continuing PPP projects, leaving the future of the country's highway network in jeopardy of being completed.

The largest problem that PPP projects face is the fact that public and private entities have very different interests. In the viewpoint of the public sector, the objective is to ensure that the money spent on infrastructure has been used effectively. On the other hand, private sector participants wish to maximize the profits. Furthermore, private companies are much more wary about carrying risks than government agencies. The goals of public and private partners in PPPs are conflicting, and this is the underlying problem of such arrangements.

## References

1. Brenck, Andreas; Beckers, Torsten; Heinrich, Maria; von Hirschhausen, Christian R. (2005) : Public-private partnerships in new EU member countries of Central and Eastern Europe: An economic analysis with case studies from the highway sector, EIB Papers, ISSN 0257-7755, Vol. 10, Iss. 2, pp. 83-111
2. Grimsey, D., & Lewis, M. (2000). Evaluating the Risks of Public Private Partnerships for Infrastructure Projects. *International Journal of Project Management*.
3. Hammami, M., Ruhashyankiko, J., & Yehoue, E. (2006). Determinants of Public-Private Partnerships in Infrastructure. IMF Institute.
4. Hodge, G. (2004). The Risky Business of Public-Private Partnerships. *Australian Journal of Public Administration*.
5. Hodge, G., & Greve, C. (2009). PPPs: The Passage of Time Permits a Sober Reflection. Institute of Economic Affairs
6. Vining, A., & Boardman, A. (2008). Public-private partnerships in Canada: Theory and evidence. *Canadian Public Administration*, 51(1), 9-44.