

# Role of public private partnerships to manage risks in public sector projects in Hong Kong

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## Abstract

The clients of public sector works have an obligation to ensure that the large scale investment in public works is effective and can achieve improvement in social and economic performance. However, construction activity is usually subject to more risk than other business activities because of its complexity particularly in coordinating a wide range of disparate and interrelated skills and activities. This complexity is further compounded in implementing public sector projects where multiple project objectives are expected by a wide range of stakeholders who have different interests associated with the projects. With reference to current practice in Hong Kong, this paper examines the major risks in implementing public sector works, and the ways that the application of public private partnership (PPP) can help to manage risks in project delivery. The example of Hong Kong Disneyland (KDLD) demonstrates how various major risks in committing to a PPP project are allocated and shared effectively between public and private partners. In this typical PPP project, it is found that allocation of site acquisition risk and legal and policy risks to the public sector is more effective while private sector could effectively allocate the design and construction risks, operation risks and industrial action risk to the private sector. Also, development risks, market risks, financial risks and force majeure could be shared effectively between the two partners. These results present valuable lessons for both the practitioners and researchers in application of PPPs to manage risks in delivering of public sector projects in other countries and regions.

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## 1. Introduction

Public sector project (PSP) is a generic reference which is applied to a wide range of public works. PSPs usually represent major part of construction works in any country or region. According to the report of Hong Kong 2002 [1], the HK Government was to spend about HK\$28 billion on capital works in 2002–2003, and maintain an average annual capital works expenditure of about HK\$29 billion in the coming years. Risk management therefore becomes an important mechanism to be adopted to ensure achievement of the planned objectives in committing to these great

investments. The public sector projects in Hong Kong are broadly divided into two groups: (a) public housing projects undertaken by the Housing Authority; (b) other public sector works commissioned by the Government of the Hong Kong Special Administrative Region, the Airport Authority, the Kowloon–Canton Railway Corporation (KCRC), and the Mass Transit Railway Corporation (MTRC) [2].

Studies suggest that the tradition of cost and time overruns, poor safety performance, poor quality and environmental performance in delivering PSPs remain to large extent unchanged [3–5,2]. Flyvbjerg et al. [4] examined 258 large transport infrastructure projects covering 20 countries, and they found that cost overruns occurred in almost 90% of the projects examined, with the highest cost overruns of 86% and 28% on average. According to the

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report of NAO [6], approximately 70% of the projects financed by the central government experienced delays in final completion in the UK, for example. Other consequences due to poor project performance include poor investment returns from the use of the project, delay in the utilisation of the public facilities and extended inconvenience for the public. All of these problems exert a huge financial pressure on government, and they can hold back or impair planned economic development.

To improve the efficiency of managing project risks, the Hong Kong Government has been promoting the application of new procurement strategies for the implementation of public sector works, in particular, the mechanism of public private partnerships (PPPs). PPP is an effective approach to enhance project productivity by bringing in management efficiency and creative skills from business practice, and reducing governmental involvement by using private sectors in the provision of public services. PPP is a development from the procurement strategy of BOT (Build, Operate and Transfer) and it is particularly suitable for large scale infrastructure projects. BOT system has been mainly promoted in developing economies where infrastructure works account for the majority of public investment. This situation arises from the need to reduce the public sector budget contribution to infrastructure investment and where efficiency gains from commercial practices can be imported to the sector. In order to reduce public borrowing to finance direct expenditure, the governments in developing countries have found private sources of project finance as an effective strategy to assist implementation of these projects [7]. The application of PPP has become increasingly popular in developed economies for gaining the advantage of improving efficiency and mitigating risks. The Hong Kong Efficiency Unit [8] opted that effectiveness of PPP is based on a partnership approach, where the responsibility for the delivery of services is shared between the public and private sectors, both of which bring in their complementary skills to the enterprise.

By referring to the practice in Hong Kong, this paper examines the major risks in the implementation of public sector works, and thereby the ways that the application of PPP can effectively manage risks in project delivery. Two constructive interviews with senior officials in the Efficiency Unit of the Hong Kong SAR Government were conducted for data collection and discussions. The discussions over the two planned interviews generated valuable data

and understanding of the application of PPPs in Hong Kong public sector works. The Efficiency Unit is the official department for promoting the application of PPPs in Hong Kong [8]. A case study analysis on PPP project in Hong Kong was also conducted. The selected case study is a typical PPP project in Hong Kong which constitutes the public real estates operated by private sectors. The analyses on these data will result in valuable research findings to present lessons learned in application of PPPs to manage risk in public sector projects in other countries or regions. The paper is structured in the following manner. First, the paper presents an investigation into the delivering of public sector projects in Hong Kong, which will lead to an analysis of typical risks in public sector projects. Third, the role of PPP to manage risks in public sector project is presented in a framework based on insights from the above analysis. Forth, the framework is applied to conduct a case study on a PPP project in recreational sector in Hong Kong. Finally, conclusions and recommendations follow.

### 1.1. Delivering of public sector projects in Hong Kong

In Hong Kong, the construction funds for implementation of public sector projects mainly come from government's Capital Works Reserve Fund (CWRF), which was established in 1982 by Resolution of the Legislative Council (LC) [9]. The income of CWRF is mainly derived from the land premium, which is used to finance public works programmes (PWP) including public construction works [1]. The system known as the Capital Works Reserve Fund Resource Allocation System (CWRF-RAS) was introduced in 1987 to regulate the finance schedule for the planning of capital works expenditure on a five-year basis. Within PWP, projects are grouped under various expenditure headings, exemplified with Table 1, which denotes the expenditure under each heading over the period 2003–2004 [10].

The government is the largest client of the construction industry in Hong Kong. The total Public Expenditure in 2001–2002 is HK\$269.4 billion, of which the expenditures on housing and infrastructure were HK\$32.1 billion and HK\$24.9 billion respectively, assuming 21.9% of the total expenditure [11]. The ETWB (Environment, Transport and Works Bureau) is responsible for implementation of all public projects except public housing which is managed by the Housing Authority. ETWB is the policy maker who is responsible for coordination of the project from the pro-

Table 1  
Categories in the PWP and expenditure in 2003–04 (Hong Kong)

	Head 701	Head 702	Head 703	Head 704	Head 705	Head 706
PWP HKD (billion)	Land acquisition 1.37	Port and airport development 0.82	Buildings 9.14	Drainage 2.18	Civil engineering 3.72	Highways 5.06
	Head 707	Head 708	Head 709	Head 7010	Head 7011	
PWP HKD (billion)	New towns and urban area development 2.90	Capital subventions and major systems and Equipment 5.54	Waterworks 1.09	Computerization 1.12	Housing 1.52	

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