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1 INTRODUCTION

1.1 Study Background and Objective

1.1.1 This Report presents the Financial Advisor's (FA) analysis and results of the Public Sector Comparator (PSC) calculation as part of the financial analysis for the WKCD development. The PSC estimates were first submitted to the FMAG in November 2006. This Report updates the estimates to enable a comparison of the PSC with the PSI scenarios.

1.2 Scope and Layout of Report

- 1.2.1 The Paper is presented in four further sections following this introduction:
 - Section 2 presents the overall methodology for PSC calculation
 - Section 3 presents a summary of the physical parameters and development and operating assumptions for the WKCD on which the financial analysis including the PSC have been based
 - Section 4 summarises the key financial and other assumptions employed in the PSC analysis, the base case on which the analysis is based and the specific assumptions adopted in the adjustments for competitive neutrality and risk
 - Section 5 presents the results

2 METHODOLOGY

2.1 Definition

- 2.1.1 The Public Sector Comparator (PSC) is defined as:
- 2.1.2 A hypothetical risk-adjusted costing if a project were to be financed, owned and implemented by the public sector. It is produced for comparative purposes and is one of a number of assessment tools which may be used in preparing for a PPP approach to the delivery of services. It is not a pass/fail test. The PSC:
 - Is expressed in net present value (NPV) terms
 - Is based on defined output specifications
 - Takes into account the risks that would be encountered under that method of procurement
- 2.1.3 Importantly, the PSC is not necessarily the public sector undertaking all activities such as building construction. Rather it is the risk adjusted cost of public sector procurement practices, defined as a Reference Case, which, in Hong Kong, includes contracting out some services including building design, building construction and services such as cleaning and security to the private sector.

2.2 Approach and Method

- 2.2.1 The approach to PSC calculation has four main components, as shown in the diagram below:
 - Raw Public Sector Comparator: estimated as the net Base Costs of construction and operation under public sector procurement practices
 - Competitive Neutrality: which is an adjustment to the Raw PSC to remove the advantages of public ownership such as taxes, insurance, rates and Government rents
 - Transferable Risk: Identifies and estimates for the risks proposed to be transferred to the private sector under a private sector scenario, such as demand risk. For example where a private sector operator of a Government sports facility collects and retains revenues as their main source of income
 - Retained Risk: Adjusts for the value of the risks proposed to continue to be borne by the Government under a private sector scenario, such as political risk. For example, where the project is delayed for political reasons and this is provided for in the contract



2.3 Tasks Involved

2.3.1 The steps involved in constructing a public sector comparator are set out in more detail below in the following diagram. The parameters, assumptions and estimates made for each of these tasks to enable the calculation of the PSC to be made are summarised in the subsequent sections of this paper.



3 KEY PHYSICAL ASSUMPTIONS AND DEVELOPMENT PARAMETERS

3.1 WKCD Physical Parameters and Development and Operating Assumptions

- 3.1.1 The financial analysis is undertaken on a "WKCD Base Case" which defines the number and type of facilities to be provided, their size and timing, operational requirements as well as other more detailed assumptions based on the broad recommendations of MAG and PATAG, the IFP and the October 2005 Package. The key assumptions and development parameters adopted are summarised in the main text of the Final Report.
- 3.1.2 The physical parameters are the same as that adopted under the PSI scenarios and described in detail in Annex A. Area and project management differs from the PSI estimates and are presented in Annex B. Demand and other cost and price estimates also differ from the PSI estimates (see Annexes C to F). Commercial and residential development and values are the same as under the PSI estimates (see Annex H).

4 FINANCIAL AND OTHER ASSUMPTIONS

4.1 Financial Assumptions

- 4.1.1 The financial analysis is undertaken using a Microsoft Excel spreadsheet model which consists of a series of linked files so that the analysis can be traced from input to output and results can be relatively easily tested. The calculation of the PSC was undertaken in the same way as the PSI scenarios, through an annual cash flow basis to 2059.
- 4.1.2 The results are presented in three ways: Money of the Day (MOD), Net Present Value (NPV) and 2006 Prices. MOD incorporates inflation and NPV discounts future cash flows to a present day value (2006) equivalent; both are able to incorporate all of the costs and revenues over the analysis period to present alternative measures of the total WKCD deficit. 2006 Prices provides a capital cost and the cost of a single representative year of operations. It does not include all the years in the analysis period and thus cannot be compared with MOD or NPV. Section 5.2 of the main text of the Final Report provides a thorough explanation and example of the performance measured adopted in the financial analysis.

4.2 The Reference Case

4.2.1 The Reference Case refers to the procurement options adopted under the PSC scenario. The table below sets out the FA assumptions. For design and construction, the Reference Case was based on the current practice of ASD. Current practice is about 85% outsourced and this figure is adopted for the proportion of design that is outsourced. The FA allocated about 15% of the value of building projects to ASD design, primarily the G/IC facilities, public open space, piazzas, other arts and cultural facilities and a black box theatre. Where a Government department is named under operations, maintenance and management, the current practice of outsourcing of that department was adopted.

С	ACF	and Communal Facilities	PSC		
P۲	ASE	1			
1	Man	agement and Masterplanning			
	1.1	wasterpranning	HAD + OGD + Consultants		
	1.2	Area and Project Management	CEDD, LCSD supported by OGD		
2	Mus	eum and Exhibition Space			
	2.1	M+ Exhibition Centre			
	2.2		25 · 2000, A00, EMOD		
3	Perfo	rming Arts Facilities	DR LLCSD ASD EMSD		
	3.1	wega Performance venue	DB + LCSD, ASD, EMSD		
	3.3	Concert Hall and Chamber Music Hall	DB + LCSD, ASD, EMSD		
	3.4	Xiqu Centre	DB + LCSD, ASD, EMSD		
	3.5	Medium Theatre 1 Medium Theatre 2 and Black Box Theatre	DB + LCSD, ASD, EMSD		
	3.7	Black Box Theatres 2 and 3	DB + LCSD, ASD, EMSD		
	3.8	Black Box Theatre 4	ASD, C + LCSD, ASD, EMSD		
	3.9	Piazzas*	ASD, C + LCSD, ASD, EMSD		
4	Othe	r Arts and Cultural Uses	ASD, C + LCSD, ASD, EMSD		
5	Tran	sport Facilities			
	5.1	Automated People Mover	DBO		
	5.2	Road works and Pedestrian Connections	DB + LCSD ASD EMSD (Merged		
			with open space)		
	5.3	Public Pier			Key
	5.4	Car Parks	ASD, C + L		ASD
e	Com	munal Facilities			BOI
J	6.1	Public Open Space	ASD, C + LCSD, ASD, EMSD	CED	D
	6.2	Fire Station, Police Post and RCP	ASD, C + Govt D	DB	
	6.3	Public Toilets	ASD, C + Govt D	DBFM	
7	Engi	ineering Works		DC	
	7.1	Bridge Over WHC Tunnel Portal	DB + WHC	EMSD	
	7.2	Build Over Ventilation Buildings	DB + MTRCL / WHC	HyD	
	7.3	Other Site Engineering Works	DB + Govt D	L	
P۲	IASE	2		M	
8	Perf	orming Arts Facilities (Phase 2)		MTRCL	
	8.1	Great Theatre 2 and Medium Theatre 3	DB + LCSD, ASD, EMSD	NPO	
	8.2	Medium Theatre 4	DB + LCSD, ASD, EMSD	OGD	
9	м+	(Phase 2)	DB + LCSD, ASD, EMSD	OMM	
-		(· ····- = _)	,,,,,,,,,	TD	
				WHC	

Table 4.1:	Public Sector	Comparator -	The Reference	Case
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*Including a small canopy

4.3 Competitive Neutrality

4.3.1 Competitive neutrality adapts the raw PSC to account for public ownership. For WKCD, since most activities are loss making, competitive neutrality adjustments were relatively minor and include profit tax, insurance, rates and Government rents. Land premium calculations for residential and commercial development are included and treated as third party revenues. It was assumed that land premiums for CACF and communal facilities would be waived under the PSI scenarios and are excluded from the analysis.

4.4 Risk

- 4.4.1 Relevant risks were calculated using simple probability valuation techniques. In line with international best practice the focus was on those risks that will affect the materiality of the costs (or revenues) being quantified.
- 4.4.2 *"It would generally be inappropriate to devote excessive time and resources to valuing minor or less sensitive risks." Partnerships Victoria, Public Sector Comparator, Technical Note, Guidance Material, June 2001.*
- 4.4.3 Risk premiums included in the analysis reflected the probability and expected outcomes of each of the risks identified. As such they included the weighted expected possibility of high (more positive) and low (less positive) outcomes. The details of the risk analysis are presented in Annex J.

5 **RESULTS**

5.1 The Public Sector Comparator

- 5.1.1 Table 5.1 summarises the results of the PSC by facility for the three performance measures: 2006 prices, NPV and MOD. Details of the results and calculations are shown in Annex K.
 - The total deficit of CACF and communal facilities is NPV (\$32.8 billion) at 2006
 - The funding gap, assuming land sales revenues are included, is NPV (\$11.9 billion) at 2006
 - Total MOD is estimated at \$93 billion
- 5.1.2 The results of the Public Sector Comparator (PSC) provide a broad order estimate of the risk adjusted cost if the WKCD project were to be undertaken by the public sector. Although a single cost has been calculated and shown here and is compared with the PSI scenarios, in reality, the PSC is a range of hypothetical estimates around that which is calculated here and thus any interpretation should not treat the PSC as any kind of hurdle or pass/fail test

Table 5.1:	Summary	/ Results	PSC	(\$ million)
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		2006 Prices		NPV		MOD
			Annual	Indicative		
			Operational	Operational	Total	Total
		All Capital	Deficit	Rate	Deficit	Deficit
PHAS	SE 1					
1	Management and Masterplanning	(1,607)	(62)		(2,196)	(7,016)
	1.1 Masterplanning	(33)	-	na	(30)	(35)
	1.2 Area and Project Management	(1,573)	(62)	0%	(2,166)	(6,981)
2	Museum and Exhibition Space	(10,963)	(433)		(12,370)	(53,406)
	2.1 M+	(10,129)	(443)	15%	(12,046)	(53,230)
	2.2 Exhibition Centre	(834)	10	126%	(324)	(176)
3	Performing Arts Facilities	(14,192)	(127)		(10,304)	(31,388)
	3.1 Mega Performance Venue	(4,504)	30	125%	(2,092)	(3,263)
	3.2 Great Theatre 1	(2,040)	(15)	81%	(1,420)	(4,128)
	3.3 Concert Hall and Chamber Music Hall	(2,357)	(40)	63%	(2,042)	(7,117)
	3.4 Xiqu Centre	(1,949)	(27)	62%	(1,583)	(5,316)
	3.5 Medium Theatre 1	(876)	(22)	38%	(860)	(3,309)
	3.6 Medium Theatre 2 and Black Box Theatre 1	(1,163)	(28)	38%	(1,126)	(4,224)
	3.7 Black Box Theatres 2 and 3	(537)	(15)	31%	(550)	(2.130)
	3.8 Black Box Theatre 4	(335)	(9)	27%	(344)	(1.321)
	3.9 Piazzas*	(431)	-	100%	(286)	(581)
4	Other Arts and Cultural Uses	(429)	-	100%	(294)	(561)
5	Transport Facilities	(1,807)	11		(971)	(1,653)
	5.1 Automated People Mover	(952)	-	100%	(603)	(1,332)
	5.2 Road Works and Pedestrian Connections	(235)	(1)	0%	(142)	(501)
	5.3 Public Pier	(31)	(0)	0%	(29)	(57)
	5.4 Car parks	(589)	12	571%	(197)	237
6	Communal Facilities	(1,961)	(32)		(1,898)	(5,342)
	6.1 Public Open Space	(1,403)	(31)	0%	(1,445)	(4,670)
	6.2 Fire Station, Police Post and RCP	(521)	-	na	(421)	(581)
	6.3 Public Toilets	(37)	(0)	0%	(32)	(92)
7	Engineering Works	(2,357)	(2)		(1,878)	(2,948)
	7.1 Deck Over WHC Tunnel Portal	(329)	(2)	0%	(306)	(579)
	7.2 Build Over Ventilation Buildings	(503)	-	na	(407)	(560)
	7.3 Other Site Engineering Works	(1,525)	-	na	(1,166)	(1,809)
Sı	ıbtotal	(33,316)	(645)	0%	(29,912)	(102,315)
PHAS	SE 2		-			
8	Performing Arts (Phase 2)	(2,917)	(75)		(1,945)	(10,317)
	8.1 Great Theatre 2 and Medium Theatre 3	(2,223)	(50)	60%	(1,419)	(7,283)
	8.2 Medium Theatre 4	(695)	(26)	37%	(526)	(3,034)
9	M+ (Phase 2)	(1,172)	(80)	34%	(949)	(7,302)
Sı	ıbtotal	(4,089)	(155)	na	(2,894)	(17,619)
TOTAL CACF AND COMMUNAL FACILITIES		(37,405)			(32,806)	(119,933)
	SALES					
10	Residential and Commercial Land Sales				20,901	26,466
	10.1 VIIIa Houses				1,624	2,057
	10.2 Apartments				13,874	17,569
	10.3 Hotels				1,453	1,840
	10.4 Retail/Dining/Entertainment 10.5 Offices				3,949	5,001
ΤΟΤΑ	L				(11,905)	(93,467)

* includes a small canopy