

Financial Advisor for the Development of the West Kowloon Cultural District and Related Matters

Presentation to the Legislative Council



Fiona Waters
Director
GHK (Hong Kong) Ltd

24 January 2008



GHK Team

	<ul style="list-style-type: none"> • Direction and Project Management • Institutional Specialists • Financial Analysts
	<ul style="list-style-type: none"> • Museum Specialists
	<ul style="list-style-type: none"> • Performing Arts Facilities Specialists
	<ul style="list-style-type: none"> • Architects
	<ul style="list-style-type: none"> • Engineers • PPP Advisor
	<ul style="list-style-type: none"> • Property Consultants
	<ul style="list-style-type: none"> • Quantity Surveyors

GHK Team



International & Local Experience

Lowry Centre

Singapore Esplanade

Kwai Tsing Theatre

Tamar Exhibition Gallery

Guggenheim Museums

Royal Liverpool Philharmonic Hall

Wales Millennium Centre

Opera Australia

Royal Opera House Redevelopment

Royal National Theatre, UK

1,600 Museum Assignments in 41 Countries

Centre Pompidou

Hong Kong Heritage Museum

Tate Modern

The Edge, Auckland

Oamaru Opera House

Queensland Performing Arts Centre

Brisbane Southbank

San Francisco Museum of Modern Art

Q Theatre Auckland

Sydney Opera House

Arts Council of England

Brisbane Powerhouse

Temple Bar, Dublin

Australian Council for the Arts



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GHK Team

G | H | K

Lord
Cultural Resources



BVN BlighVollerNieldArchitecture

ARUP

Knight Frank
PETTY 卓德·莱坊

KPK
QUANTITY SURVEYORS

Hong Kong Sector Studies

Cultural Facilities Study: A Study on their Requirements and the Formulation of New Planning Standards and Guidelines, Undertaken by GHK for Planning Department
- First identified an arts district at West Kowloon

G | H | K

G | H | K

Consultancy Study on the Provision of Regional/District Cultural and Performance Facilities in Hong Kong, Undertaken by GHK for Home Affairs Bureau
- Reviewed Performing Arts Venues in HK

Consultancy Study on the Mode of Governance of Hong Kong's Public Museums and the Hong Kong Film Archive, Undertaken by Lord Cultural Resources for Home Affairs Bureau
- Reviewed Museums in HK

Lord
Cultural Resources

Museum Manual Publications



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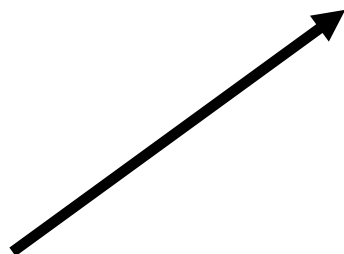
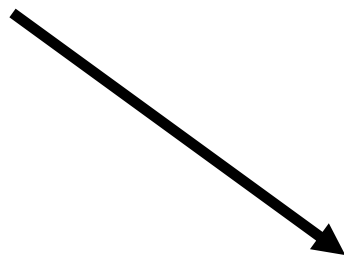
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Background

**Museums
Advisory Group**

**Performing Arts
and Tourism
Advisory Group**

**Invitation for
Proposals &
October 2005
Package**



Financial Advisor



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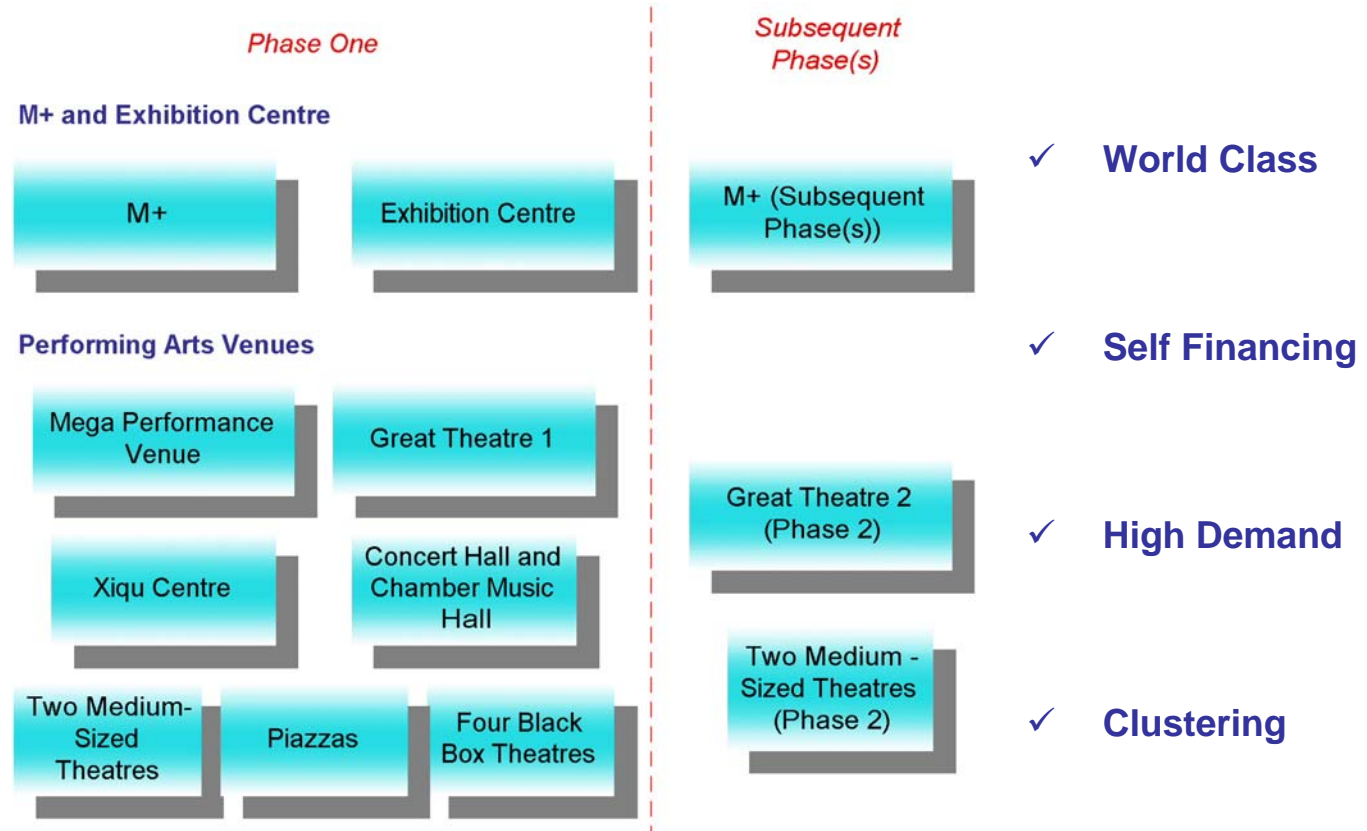
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Recommendations of MAG and PATAG

**Museums
Advisory Group**

**Performing Arts
and Tourism
Advisory Group**

**Invitation for
Proposals &
October 2005
Package**



Requirements of the IFP and October 2005 Package

Museums Advisory Group

GFA (m²)

- Site Area (hectares): 40.09

- Plot Ratio: 1.81 726,285

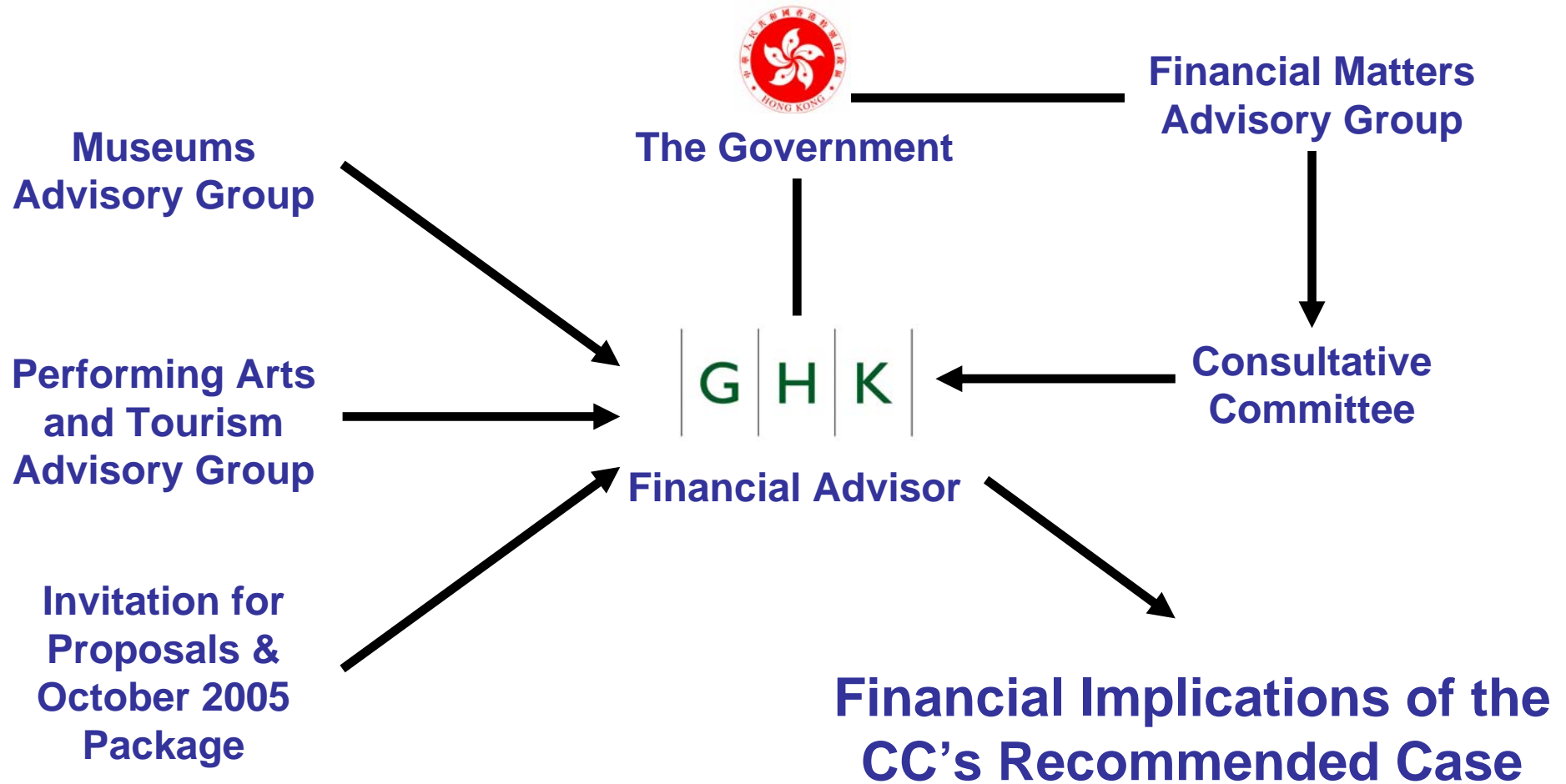
Performing Arts and Tourism Advisory Group

- Residential Development Cap: 20% 145,257

Invitation for Proposals & October 2005 Package

- Maximum building heights ranging from 50mPD to 100mPD – as recommended by Planning Department

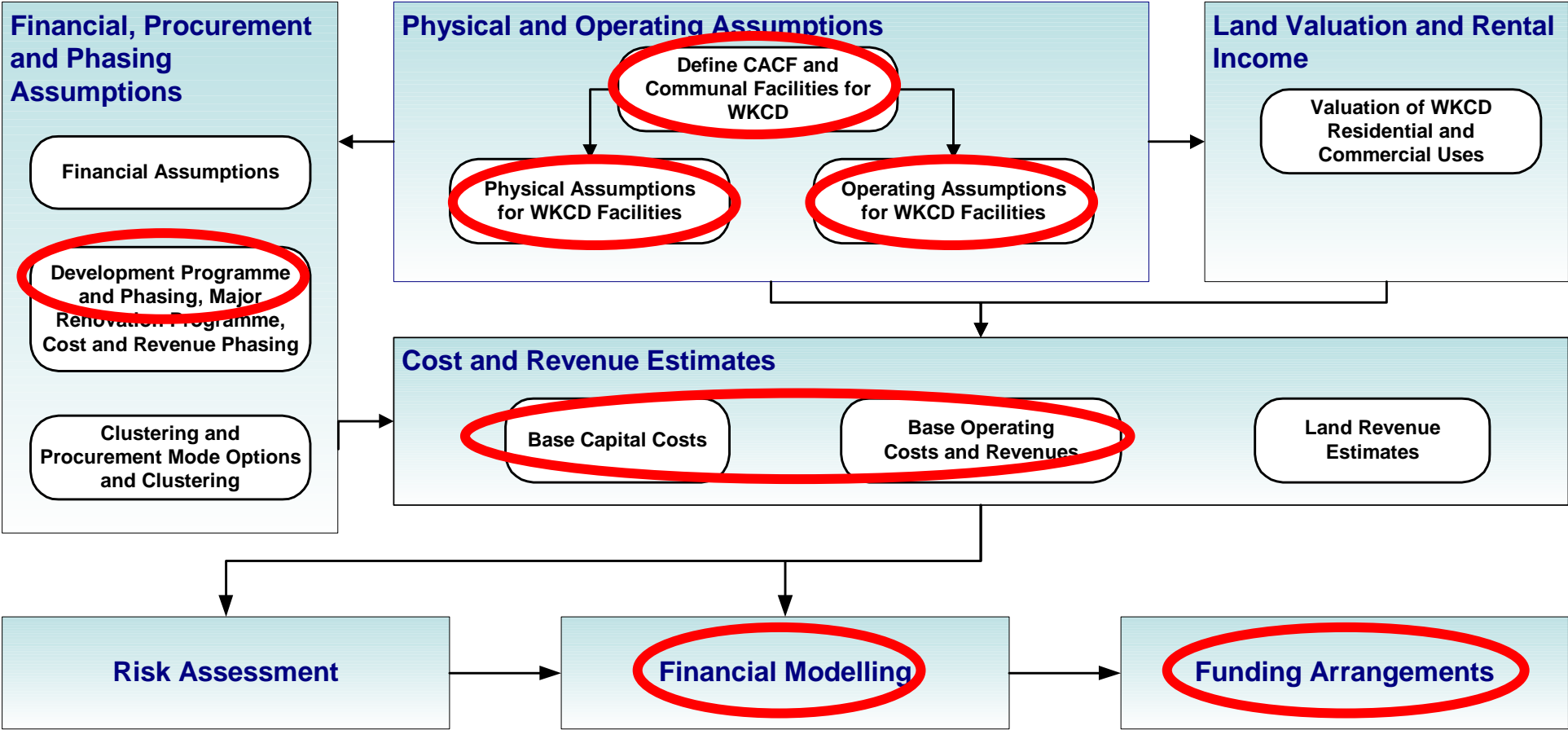
Background and Scope



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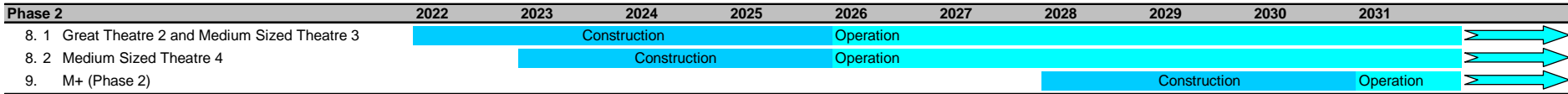
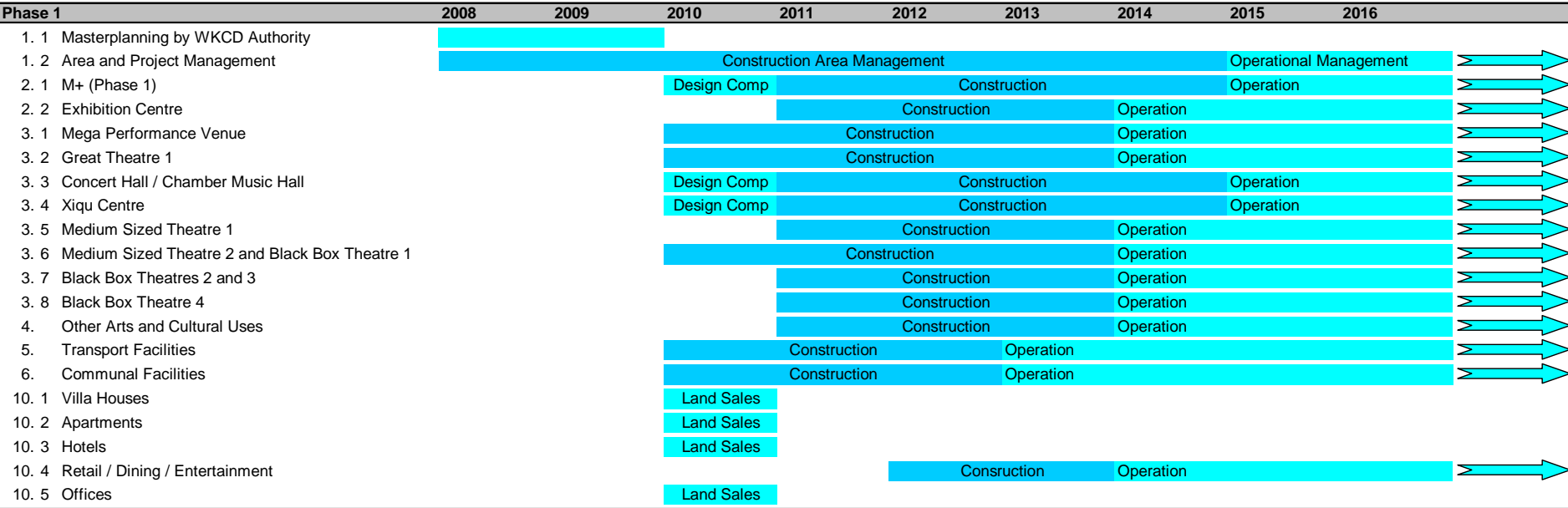
Methodology and Scope



Key Assumptions: Development Mix

	GFA (m ²)	% of Total GFA
M+	61,950	8%
Exhibition Centre	12,500	2%
Performing Arts Venues	188,895	26%
Other Arts and Cultural Uses	15,000	2%
Communal Facilities	20,000	3%
Retail, Dining and Entertainment (RDE) Facilities	119,000	16%
Sub-total Cultural and Related Mix	417,345	57%
Residential: Villa Houses and Apartments	145,257	20%
Commercial: Hotels and Offices	163,683	23%
Sub-total Residential and Commercial Mix	308,940	43%
Total	726,285	100%

Key Assumptions: Development Programme



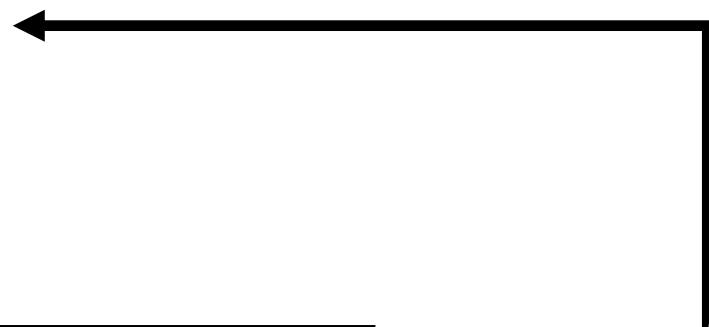
Key Assumptions: Unit Capital Construction Costs for CACF

Assumptions	Unit Cost / sq m
M+ Phase 1 (On-site)	\$24,200
PA Venues	\$22,200 - \$29,200
Black Box Theatres cost less than Medium Theatres	
Highest unit costs for Great Theatres, Concert Hall & Chamber Music Hall	

International References	Unit Cost / sq m	Range of Examples
Museums		
• Beijing New Capital Museum	\$26,200	\$14,300 - \$41,100
• New York MOMA	\$41,100	
PA Venues		
• Walt Disney Concert Hall	\$41,500	\$10,800 - \$41,500
• The Sage	\$28,000	

Range of Comparables
\$16,000 - \$27,000
\$24,000 - \$32,000

Local References	Unit Cost / sq m
Grade A Offices	\$11,000 - \$14,000
Prestige Shipping Centres	\$13,000 - \$16,000
5* Luxury Hotels	\$17,000 - \$19,000



Key Assumptions: M+ Collection and Programming Budget

Assumptions	Cost (\$, million)
Initial Collection Budget	\$1,000
Annual Collection Budget	\$20
Annual Programming Cost	
• Phase 1	\$100
• Phase 2	\$172

Focus on emerging artists

Majority of cost for temporary exhibitions to attract repeat visitors

International References

- Very difficult to make comparisons
- Initial Collections built up over long periods
- Donations, Exhibit Loans, Partnership Arrangements Important
- Annual Collection Budget ranges from \$11 million to \$774 million

Key Assumptions: M+ Visitor Numbers and Admission Fee

Assumptions	
Visitor Numbers	
M+ Phase 1	1.2 million
M+ Phase 2 (by 2031)	2 million
Average Admission Revenue	
M+ Phase 1	\$27.5 / person
M+ Phase 2	\$30 / person

MAG Target

M+ Affordable not Free

International References	Annual Admissions (People, million)	Admission Fee (HK\$)
Centre Pompidou	5.5	\$103
Tate Modern	4.0	Free
New York MOMA	2.7	\$156
Guggenheim New York	0.9	\$137
Range from International Examples	0.8 – 5.5	Free - \$156

Local References	Annual Admissions (People, million)	Admission Fee (HK\$)
HK Museum of Art / HK Heritage Museum	0.5 / 0.7	\$10
• Premium for Blockbuster Shows		\$10 - \$30
Ocean Park	4.4	\$185



Key Assumptions: PA Venues

Assumptions	
Average Ticket Price	
Great Theatre 1	\$350
Concert Hall	\$300
Utilisation Rate	
Great Theatre 1	90%
Concert Hall	82%
Attendance Rate*	
Great Theatre 1	72%
Concert Hall	67%

PATAG: Affordable

PATAG: High Level of Demand

PATAG: High Level of Demand

Local References	
Average Ticket Price	
Musicals at LCSD Venues	\$334
LCSD music performances at HK Cultural Centre	\$297
Utilisation Rate	
HK Cultural Centre Grand Theatre / Concert Hall	100%
City Hall Concert Hall	99%

* As measured by $\frac{\text{Attendance}}{\text{Number of Seats}}$



Key Assumptions: PA Venues

Assumptions	\$ per seat
Hiring Charges	
Great Theatre 1	\$28
Concert Hall	\$23

Market Price with Reference to LCSD and Private Venues in Hong Kong



Local References	\$ per seat
Theatres	
HK Cultural Centre Grand Theatre	\$20
HKAPA Lyric Theatre	\$28
Concert Halls	
HK Cultural Centre Concert Hall	\$15
HK City Hall Concert Hall	\$17

Key Assumptions: WKCDA Staff Numbers

Assumptions	
Number of Staff	
During Construction Phase	90
During Operation Phase	33

- Staff numbers estimated from the bottom-up
- 5 divisions plus administration staff

International References	Staff Range
3 Area-based Development Corporation	
• The London Thames Gateway Development Corporation	17 - 411
• The Lower Manhattan Development Corporation	
• The Brisbane South Bank Corporation	

But not directly applicable

Local References	Staff Range
URA, MPFA, HKADC, HKMA, SFC, HKSTPC, HKTB	41 - 433



Key Assumptions: WKCDA Staff Costs

Assumptions	Staff Costs (\$, million p/a)
Staff Costs	
Director	\$3
Average Other Staff	\$1

Local References	Staff Costs
URA, MPFA, HKADC, SFC, HKSTPC, HKTB	
• Director Costs	\$1.2 - \$3.9 million p/a
• Other Staff Costs	\$225,000 – 493,000 p/a
Government Staff Costs	
Private Sector Pay Survey	

Key Assumptions: CACF Operating Cost Recovery Rates

Assumptions	Cost Recovery Rate
M+ Phase 1	18%
M+ Phase 2	22%
PA Venues	41% to 149%

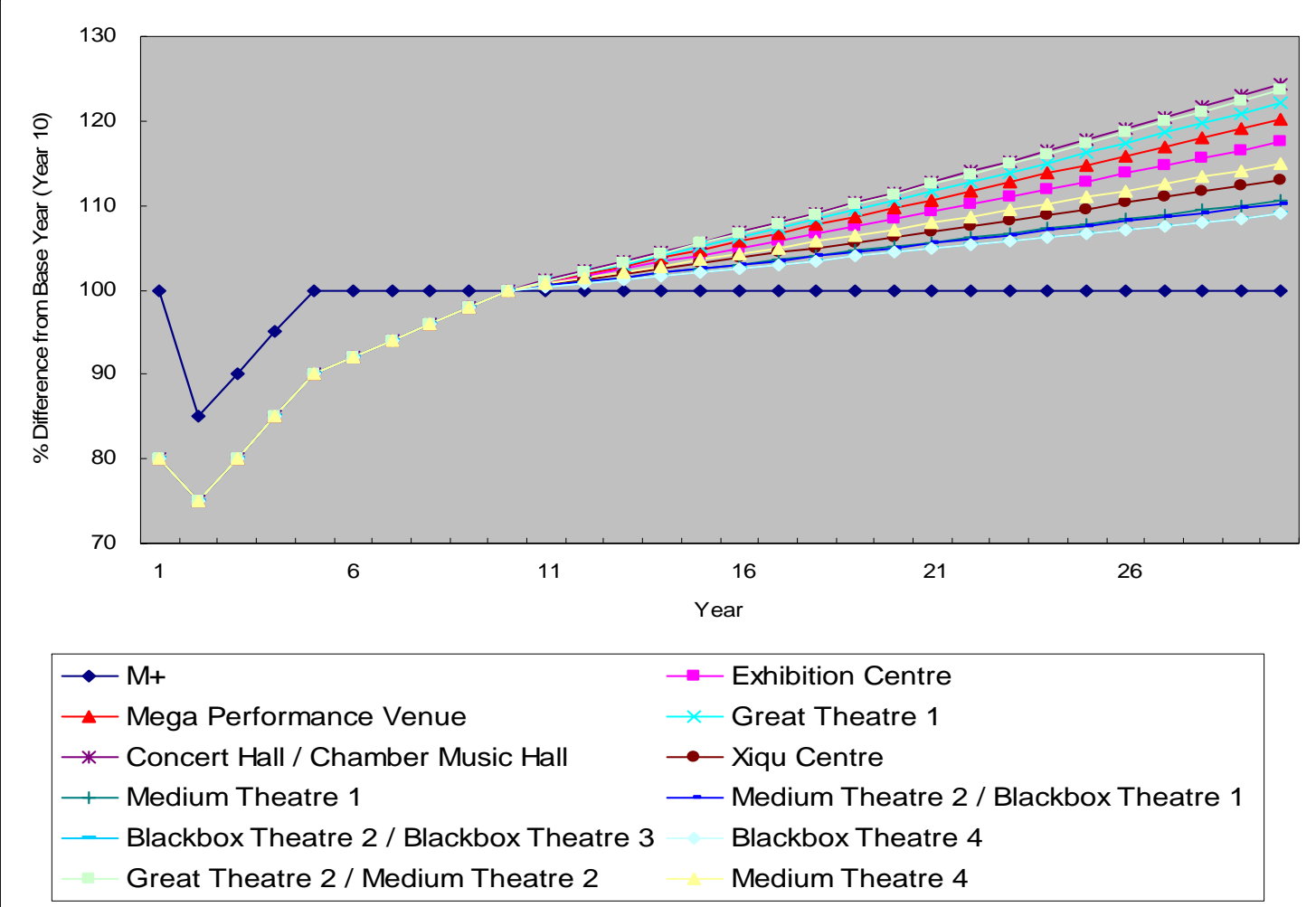
International References for M+	Cost Recovery Rate
Centre Pompidou	27%
Tate Galleries	54%
New York MOMA	57%
Guggenheim Museums	66%
Range from International Examples	27% – 66%

International References for PA Venues	Cost Recovery Rate
Singapore Esplanade	38%
Sydney Opera House	74%
South Bank Centre	43%
Kimmel Centre	93%
Range from International Examples	38% – over 100%

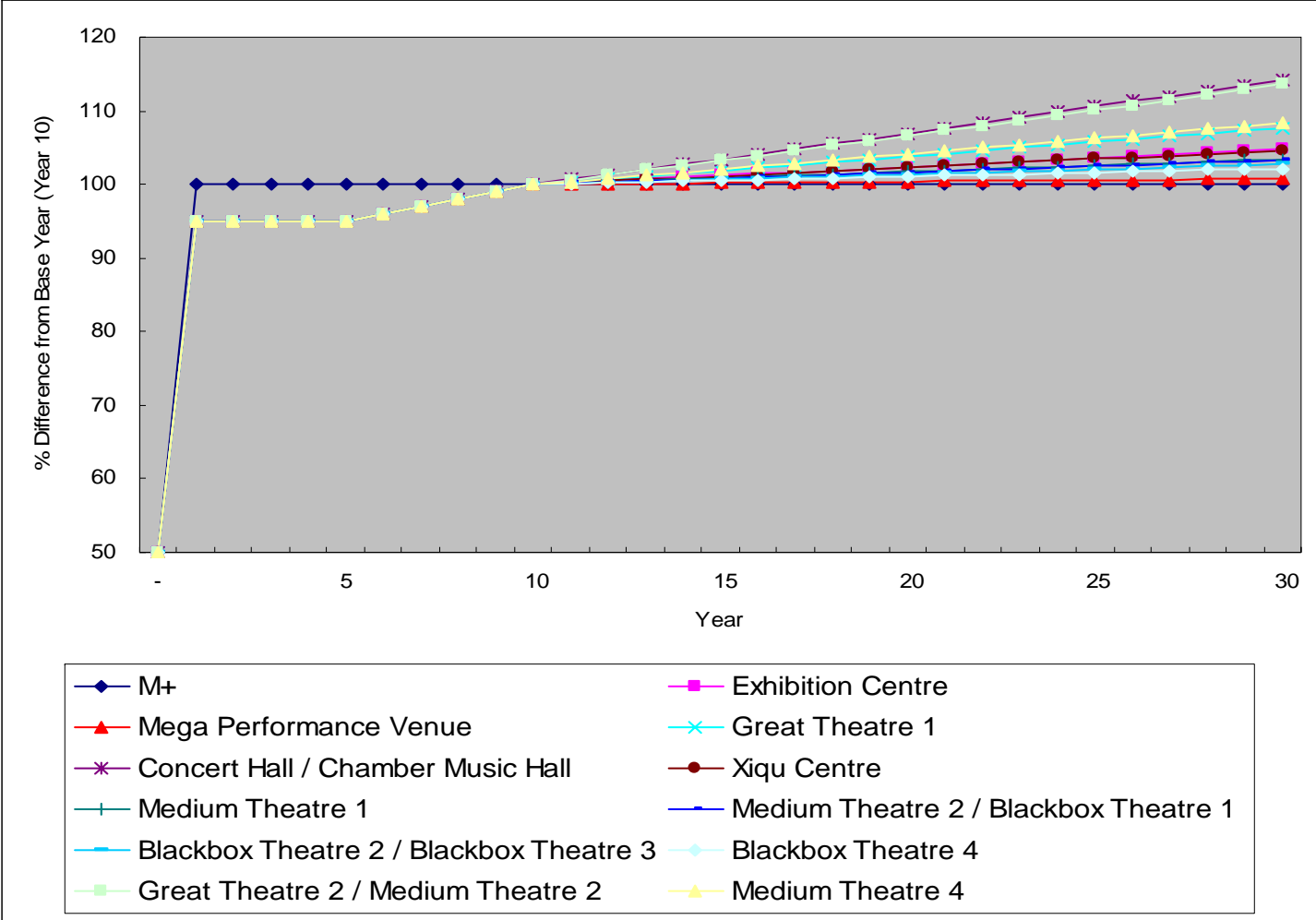
Local References for PA Venues	Cost Recovery Rate*
HK Coliseum	226%
HK Cultural Centre	61%
HK City Hall	56%

* Excludes programming cost

Key Assumptions: Build Up of CACF Operating Revenue



Key Assumptions: Build Up of CACF Operating Cost



Example CACF: M+ (Phase 1), Operating Costs and Revenues

Expenditure	\$ Million (2006 Prices)
Staff	136.2
Administration Overheads	16.3
Building Maintenance	4.2
Cleaning and Security	18.0
Utilities	30.2
Marketing	21.2
Programmes	100.0
Other Expenditure	28.6
Insurance	2.9
Rates and Government Rent	6.4
Total	364.0

Assumptions	
More outsourcing in HK, Similar Staff Structure as LCSD	320 Staff
Scale	43,365 sq m GFA

Revenue	\$ Million (2006 Prices)
Hire Income/ Admissions	34.5
Retail / Catering / Tenant Income	10.6
Programmes	4.0
Fundraising	15.0
Other Income	3.2
Total	67.3



Example CACF: M+ (Phase 1), Capital Costs

$$\text{M+ Phase 1 Capital Costs} = \text{Construction Costs} + \text{On-costs} + \text{Set-up Costs} + \text{After Opening}$$

Example CACF: M+ (Phase 1), Capital Costs

$$\text{M+ Phase 1 Capital Costs} = \text{Construction Costs} + \text{On-costs} + \text{Set-up Costs} + \text{After Opening}$$

$$\begin{aligned} \text{Construction Costs} &= \text{CFA} \times \text{Unit Cost} \times \text{Bid Price Adjustment to 2006 Prices} \\ \text{Construction Costs} &= 56,375 \times 24,200 \times 0.96 \\ \text{Construction Costs} &= \$1.313 \text{ billion} \end{aligned}$$

CFA Calculation	
GFA	43,365
GFA to CFA Ratio	1:1.3
CFA	56,375

Unit Cost Item	Unit Cost, \$
Foundation Costs	\$4,200
Building Construction	\$14,200
Fit-out Costs	\$6,000
Total Unit Cost	\$24,200

Example CACF: M+ (Phase 1), Capital Costs

$$\text{M+ Phase 1 Capital Costs} = \text{Construction Costs} + \text{On-costs} + \text{Set-up Costs} + \text{After Opening}$$

$$\text{On-costs} = \left[\begin{array}{c} \text{Consultancy} \\ \text{Fees} \end{array} + \begin{array}{c} \text{Contract} \\ \text{Management} \\ \text{Fees} \end{array} \right] \times \text{Construction Costs}$$

$$\text{On-costs} = \left[\begin{array}{c} 11\% \\ + \\ 9\% \end{array} \right] \times \$1.313 \text{ billion}$$

$$\text{On-costs} = \$0.264 \text{ billion}$$

Example CACF: M+ (Phase 1), Capital Costs

$$\text{M+ Phase 1 Capital Costs} = \text{Construction Costs} + \text{On-costs} + \text{Set-up Costs} + \text{After Opening}$$

On-site

$$\text{Construction Costs} + \text{On-costs} = \$1.576 \text{ billion}$$

Off-site Storage and Conservation Laboratory

$$\text{Construction Costs} + \text{On-costs} = \underline{\$0.422 \text{ billion}}$$

$$\$1.999 \text{ billion}$$

Includes \$73 million for land

Example CACF: M+ (Phase 1), Capital Costs

$$\text{M+ Phase 1 Capital Costs} = \text{Construction Costs} + \text{On-costs} + \text{Set-up Costs} + \text{After Opening}$$

Set-up Cost Item	Cost (\$, million)
Initial Collection	1,000
Exhibition Development	204
Initial Conservation Laboratory Equipment	26
Initial Library Set-up Costs	28
Total Set-up Costs	1,258

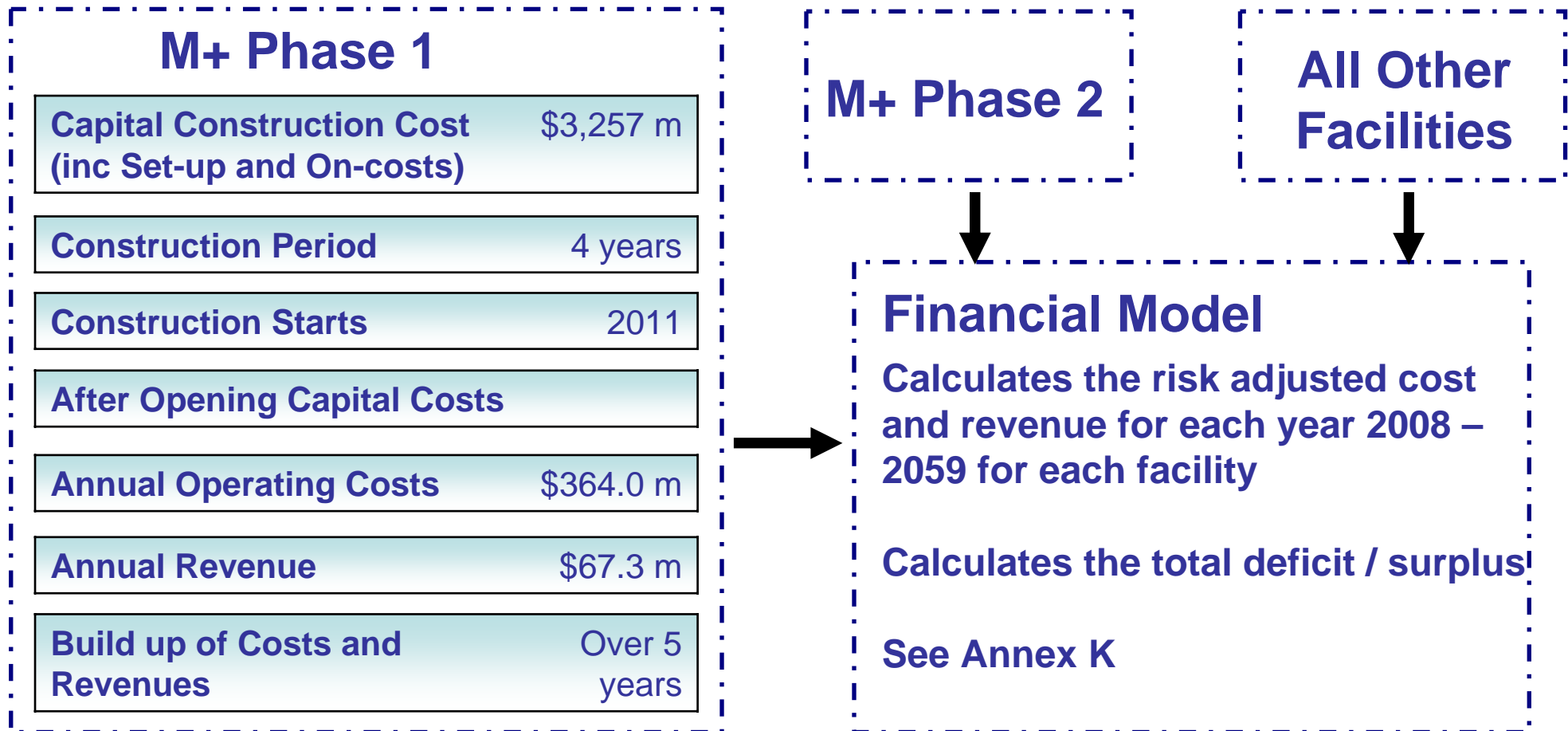
Example CACF: M+ (Phase 1), Capital Costs

$$\text{M+ Phase 1 Capital Costs} = \text{Construction Costs} + \text{On-costs} + \text{Set-up Costs} + \text{After Opening}$$

Additional Capital Costs After Opening	Cost (\$, million)	Frequency
Ongoing Collection	20	Every year
Periodic Replacement of Laboratory Equipment	13	Every 10 years
Exhibition Development	204	Every 15 years
Major Repair and Overhaul (On-site and Off-site)	770	Every 20 years

Example CACF: Why the Need for Financial Modelling?

Costs and Revenues are incurred in different years



A Simplified Example: Calculating MOD and NPV

All Inputs in Base Year Prices – in this Example Year 0

Construction

Total: \$2,000
Year 0: 50%
Year 1: 50%

Net Operational Costs and Revenues

Year 2: \$600
Year 3: \$400
Years 4, 5, 7-9: \$200

Major Repair and Overhaul

Year 6: \$1,000
(50% of Construction)

	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Total
Cost in year 0 prices (\$) (Y)	(1,000)	(1,000)	(600)	(400)	(200)	(200)	(1,000)	(200)	(200)	(200)	(5,000)
Inflation index (P)	1.000	1.020	1.040	1.061	1.082	1.104	1.126	1.149	1.172	1.195	
MOD (\$)	(1,000)	(1,020)	(624)	(424)	(216)	(221)	(1,126)	(230)	(234)	(239)	(5,335)
Discount factor (DF)	1	0.943	0.889	0.838	0.790	0.744	0.702	0.662	0.624	0.588	
Present value (PV) (\$) at year 0	(1,000)	(962)	(555)	(356)	(171)	(164)	(790)	(152)	(146)	(141)	(4,436)

Total Year 0 Prices = NOT MEANINGFUL

Total MOD = Sum of each year's MOD from years 0 to 9

Total NPV = Sum of each year's PV from years 0 to 9

() denotes negative value / cash flow / NPV

Nominal Discount Rate takes into account inflation at 2% pa and a real discount rate, assumed to be 4% pa: $(1+2\%)*(1+4\%)-1 = 6.1\%$

$$DF = \frac{1}{(1 + 0.061)^t}$$

where t is the year, 0 - 9

Executive Summary

Financial Advisor for the Development of the West Kowloon Cultural District and Related Matters



Financial Analysis: Results Summary

NPV, 2008 prices, HK\$, millions

PHASE 1		Capital	Operations
1	Management and Masterplanning	(1,264)	(1,015)
2	Museum and Exhibition Space	(4,801)	(5,011)
2.1	M+	(4,266)	(5,292)
2.2	Exhibition Centre	(535)	281
3	Performing Arts Facilities	(8,560)	(128)
3.1	Mega Performance Venue	(2,706)	1,014
3.2	Great Theatre 1	(1,220)	(5)
3.3	Concert Hall and Chamber Music Hall	(1,421)	(307)
3.4	Xiqu Centre	(1,174)	(213)
3.5	Medium Theatre 1	(515)	(159)
3.6	Medium Theatre 2 and Black Box Theatre 1	(699)	(213)
3.7	Black Box Theatres 2 and 3	(320)	(140)
3.8	Black Box Theatre 4	(195)	(104)
3.9	Piazzas	(310)	-
4	Other Arts and Cultural Uses	(331)	-
5	Transport Facilities	(1,049)	179
6	Communal Facilities	(1,027)	(537)
	Sub-total	(17,032)	(6,512)
PHASE 2			
8	Performing Arts Facilities (Phase 2)	(1,290)	(446)
8.1	Great Theatre 2 and Medium Theatre 3	(986)	(318)
8.2	Medium Theatre 4	(303)	(128)
9	M+ (Phase 2)	(483)	(625)
	Sub-total	(1,773)	(1,070)
TOTAL		(18,804)	(7,582)

Financial Analysis: Land Valuation

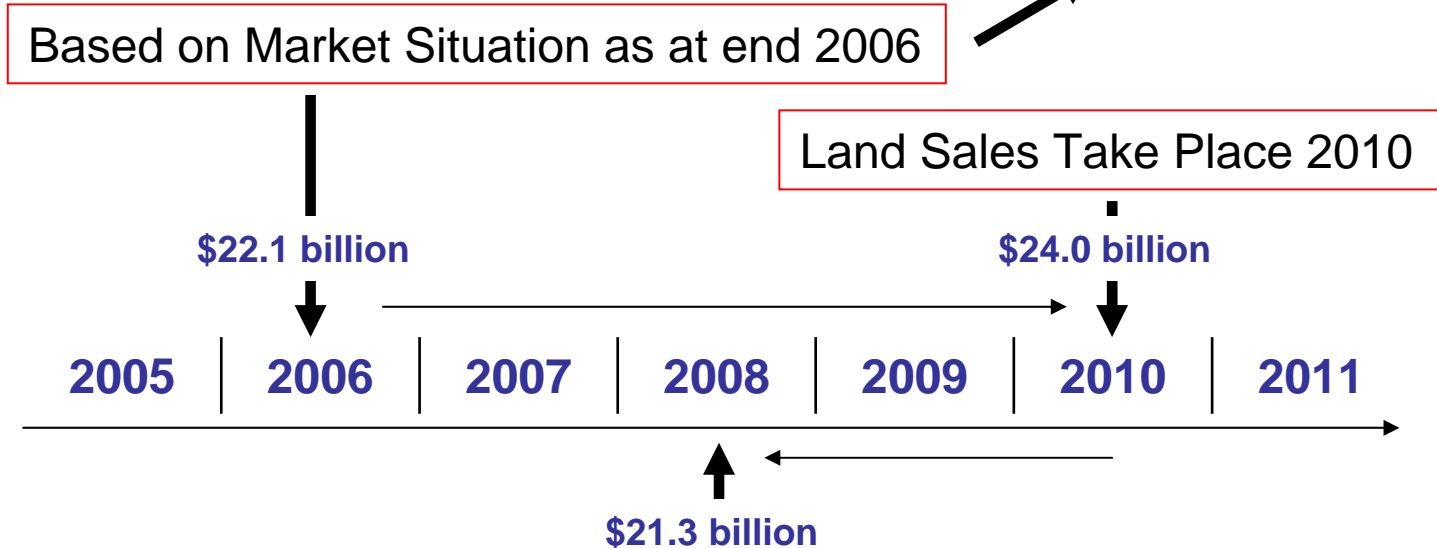
Land Value = GFA X Accommodation Value = \$22.1 billion

Land Use	GFA (sq m)	Accommodation Value (HK\$ / sq m)	Land Value (HK\$, million)
Residential	145,257	n/a	18,131
Villa Houses	10,000	190,000	1,900
Apartments	135,257	120,000	16,231
Hotels	56,000	20,179	1,130
Offices	107,683	26,652	2,870
Total	308,940	n/a	22,131

Local References		Accommodation Value HK\$ / sq m
Villa Houses	Mount Beacon	\$241,000
Apartments	Broadcast Drive	\$106,000
Hotels	Novotel Citigate / Novotel Century Harbourview	\$26,000 / \$51,000
Office	Reference made to ICC Rentals	

Financial Analysis: Land Valuation

Land Value = GFA X Accommodation Value = **\$22.1 billion**



Land Value (MOD at 2010) = Land Value (2006) x Inflation Adjustment (2006 – 2010)

NPV at 2008?

Land Value (MOD at 2010) = \$22.1 billion x (1.02)⁴ = \$24.0 billion

Land Value (NPV at 2008) = Land Value (2010) x Discount Factor (2010 – 2008)

Land Value (NPV at 2008) = \$24.0 billion x 1/(1.061)² = \$21.3 billion



Revenue from Retail, Dining and Entertainment (RDE)

Assumptions	
Net Revenue	\$30 psf/ month
Net Revenue	\$3,875 sq m/ year
GFA	119,000 /sq m
Annual Rental Income	\$461 million
Car Park Spaces	397
Car Park Space Rent	\$2,500/ month
Annual Car Park Space Income	\$12 million
Total Annual Revenue	\$473 million
Revenue from RDE over Project Period	\$8.4 billion (NPV at 2008)

RDE scattered in the WKCD site and integrated with CACF

Local References	
Prime and Secondary Shopping Malls	\$27 - \$42 psf / month
• Langham Place, IFC, Elements, Plaza Hollywood, Olympian City	
Soho RDE	\$50 - \$80 psf / month

Financial Analysis: Funding Mechanism

NPV, 2008 prices, HK\$, billions

Phase 1 & Phase 2	Capital	Operations	
CACF & Communal Facilities	(18.8)	(7.6)	
Funding Mechanism			
Retail / Dining / Entertainment	(2.8)	8.4	<div style="border: 1px solid red; padding: 5px; display: inline-block;">RDE Capital Cost</div> <div style="border: 1px solid red; padding: 5px; display: inline-block;">RDE Net Rental Income</div>
WKCD Total Capital Cost	(21.6)		<div style="border: 2px solid red; padding: 5px; display: inline-block;">Proposed Capital Endowment</div>

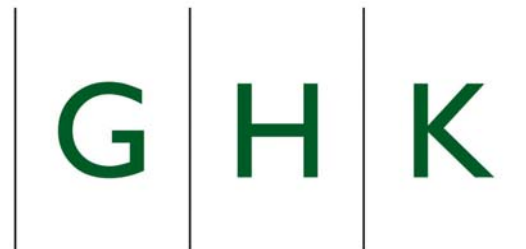
- RDE is vested to the WKCDA and the WKCDA pays for its development
- Operating costs to be covered by rental income from RDE
- Capital endowment approximately equal to value of land sales but the two are de-linked in the CC recommended funding mechanism
- Capital costs to be covered by up-front endowment

Thank You

Fiona Waters

Director

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