

Economic impact of developing the West Kowloon Cultural District

Executive Summary

*Economic Analysis Division
Economic Analysis and Business Facilitation Unit
Financial Secretary's Office
May 2007*

Economic impact of developing the West Kowloon Cultural District

Key findings

- *The West Kowloon Cultural District (WKCD) is an important investment in Hong Kong's arts and cultural infrastructure, a major step to promote cultural and artistic activities in Hong Kong, and a strategy that supports the long term development of Hong Kong as a creative economy and a world city.*
- *The economic impact assessment shows that the WKCD will bring \$2,660 million value added contribution⁽¹⁾ to GDP when operation of all Phase 1 Core Arts and Cultural Facilities (CACF) commences. Upon the operation of all Phase 2 CACF in year 16 (16 years after the operation of all Phase 1 CACF), the value added contribution will rise to \$5,280 million. The contribution would reach \$5,670 million per annum by year 30, when operation of the CACF matures. During its operation stage over a total of 46 years, the WKCD will contribute a cumulative \$71,040 million value added (in present value terms) to the Hong Kong economy.*
- *Regarding employment opportunities, a total of 9 980 jobs⁽¹⁾ will be created when operation of all Phase 1 CACF commences, increasing to 20 080 jobs in year 16 and further to 21 540 jobs in year 30. A wide spectrum of economic sectors, including arts and culture, design and publishing, advertising and marketing, and tourists-related industries, will benefit from the development of the WKCD.*
- *Around 2.4 million tourists are expected to visit the WKCD when operation of all Phase 1 CACF commences, consisting of about 0.9 million tourists attending the exhibitions/ arts performances there and another 1.5 million tourists visiting the WKCD for sight-seeing purpose only. Growing at an average annual rate of 2.2% over the ensuing 30 years, over 4.5 million tourists will visit the WKCD annually by year 30, bringing an additional \$3,720 million spending per annum to Hong Kong.*

(1) Unless specified otherwise, all monetary figures in the present assessment are expressed in real terms at 2006 prices and all figures related to job creations are on a full-time equivalent basis.

- *During the construction stage, construction work and related services are expected to bring around 11 020 jobs providing a total employment of around 33 700 man-years, comprising 10 040 jobs (30 600 man-years) for Phase 1 CACF, supporting facilities and property segment and 980 jobs (3 100 man-years) for Phase 2 CACF. The spillover effect of the construction on the rest of the economy will generate a further 18 360 man-year job opportunities. In economic output terms, the construction spending and the associated stimulation to the economy will generate a total of \$15,700 million in value added (in present value terms) to the economy during the construction stage.*

Introduction

The development of the West Kowloon Cultural District (WKCD) is an important investment in Hong Kong's arts and cultural infrastructure, a major step to promote cultural and artistic activities in Hong Kong, and a strategy that supports the long term development of Hong Kong as a creative economy and a world city. It is expected to bring about not only substantial tangible economic output and employment, but also various significant intangible benefits.

2. The tangible economic impacts mainly pertain to the value added and job opportunities generated by the construction of WKCD infrastructures, management and operation of its venues and facilities, and also programmes, exhibitions and performances held there. Additional spending by tourists and local residents arising from the operation of the WKCD also constitutes a key source of economic impact. Crude estimates of these impacts are given in this note.

3. The intangible economic impacts of the WKCD have many different dimensions. They include, *inter alia*, fostering the development of our knowledge-based economy, invigorating creative industries and innovation activities, nurturing and pooling talents, attracting investors, raising the quality of life, reinforcing our economic integration with Pearl River Delta (PRD), and enhancing Hong Kong's image as a world city.

Tangible economic impacts

(a) Impact during the construction process

4. Construction of the WKCD and the related management and consultancy services (including two phases of Core Arts and Cultural Facilities (CACF), and the residential and commercial segment) are estimated to cost around \$18,260 million in present value terms. It is crudely estimated that the value added generated would be around \$15,700 million for the economy in present value terms. As to employment impact, construction of the entire WKCD project is expected to create 11 020 jobs providing a total employment of around 33 700 man-years. These include 10 040 jobs (a total employment of 30 600 man-years) during 2008-2016 for Phase 1 CACF, supporting facilities and residential and commercial segment and 980 jobs (3 100 man-years) during 2022-2031 for Phase 2 CACF⁽²⁾. And as the construction spending will induce further spending on the rest of the economy through the multiplier process, an additional 18 360 man-year jobs would be created.

(b) Impact upon commencement of the WKCD's operation

5. When the WKCD arts and cultural facilities commence operation, 3 major types of activities will generate economic value added and create job opportunities. They include management of the WKCD and its CACF, various ancillary services for day-to-day operation and facility maintenance, and various activities involved in programmes, exhibitions and arts performances held at the WKCD. It is crudely estimated that these activities taken together would generate directly around \$880 million in economic value added and create 3 740 job opportunities in 2015. The respective impacts are expected to rise steadily to \$1,320 million and 5 650 job opportunities by 2031. Reflecting the anticipated qualitative improvements in the exhibitions and programmes, the value added and jobs will increase further and stabilise at around \$1,420 million per annum and 6 080 in 2045.

(2) Timing of construction/operation of the WKCD and its CACF is adopted from the Financial Advisor's assessment.

(c) Additional spending by tourists and local residents

6. There are 3 key sources of additional visitor spending in Hong Kong arising from the WKCD operation. *First*, some tourists who would have come to Hong Kong even without the WKCD (the base tourists) will tend to stay longer and spend more for visiting the WKCD and/or attending the programmes there. *Second*, some tourists who would not have visited Hong Kong will be induced to come because of the WKCD (the induced tourists). *Third*, additional spending will be made by local residents visiting the WKCD and attending the programmes there.

7. After discounting the “crowding-out” effect on other expenditure by the tourists and local residents concerned, it is crudely estimated that these 3 additional sources of spending would generate value added of \$1,060 million and create 4 380 job opportunities in 2015. The respective impacts would rise steadily to \$2,880 million and 11 630 in 2031, and stabilising at \$3,080 million per annum and 12 430 by 2045. These figures cover the direct, indirect and induced impacts generated by the additional visitor spending, but do not include the impact of their spending on ticket/admission fee at the WKCD which have already been included in the impact calculated in paragraph 5 above.

8. The combined impacts given in paragraphs 5 to 7 above will further generate, through the multiplier process, indirect or/and induced impacts on the economy. In sum the total economic impacts, including direct, indirect and induced impacts, are estimated to be \$2,660 million in value added to GDP and 9 980 jobs in 2015. With the opening of Phase 2 CACF and the WKCD’s enhanced attractiveness to tourists, the total value added contribution to GDP and job creation will rise steadily to \$5,280 million and 20 080 respectively in 2031 and further to \$5,670 million and 21 540 in 2045.

Intangible economic benefits

9. In the face of an increasingly globalized economy, and in particular the rapid changes going on in the Mainland, Hong Kong must continue to transform itself, not only economically, but also in other aspects. As cities in the region continue to improve rapidly in terms of infrastructure and traditional measures of competitiveness, Hong Kong must upgrade its soft infrastructure and enhance its competitiveness in soft qualities such as taste, style and creativity. A vibrant arts and cultural environment will help to create the synergy necessary to complement and enhance the efficiencies and

competitiveness of a modern, cosmopolitan financial and business centre, as well as attract talents and investors. The rapidly rising prosperity in the Mainland and in the region also contributes to a significant increase in demand for such cultural, creative and artistic qualities. The WKCD is therefore a strategic investment to enhance Hong Kong's longer term standing and competitiveness as an international city.

(i) Fostering vibrant cultural activities and the development of a creative economy

10. The WKCD project, being an integrated arts and cultural hub with a clustering of cultural institutions, arts organizations and artistic talents, would be a significant driver spearheading the growth and development of cultural and creative industries. This could be analyzed mainly in the following aspects:

- The construction of a total of 15 performing arts venues would not only be able to address the current venue shortage facing the performing arts sector, but also be a booster dose to the further development of performing arts both as an art form and as a creative industry with commercial market potential. The emerging trend of performing arts companies (mainly theatre companies) capable of relying mainly on ticketing income to sustain their artistic production programmes is a manifestation of this potential.
- The proposed museum institution M+ would be a forward-looking cultural institution seeking to present 20-21st century visual culture with a flexible attitude open to new interpretations, fostering cross-fertilization and communications. This would effectively provide a creative and innovative platform for fostering the growth and development of a broad range of cross-media activity areas under the umbrella of visual culture which would include but not limited to visual art (such as installation, painting, photography, and sculpture), architecture, design (such as fashion, graphic and product design), moving image (such as film, video and television) and popular culture (such as advertising and comics).
- The proposed M+ and Performing Arts Facilities and programmes could act as input of talents and ideas, production sites, testing grounds, markets and distribution channels in the value chain of creative industries. Experience in overseas jurisdictions indicate

that museums could support and rejuvenate creative industries through commissioning and showcasing creative work and research, acting as a platform for exchanges, dialogues, collaborations and co-operations amongst creative practitioners, offering breeding grounds for creative talents and new ideas, and providing a wide range of education and training support for creative industries.

- The programmes, exhibitions and arts performances at the proposed M+ and Performing Arts Facilities would have a strong influence on the output of creative industries by stimulating consumption and marketing of creative products and works. They offer artistic experiences to the public which would equip consumers with the knowledge and tastes to consume creative products. They would also be regular buyers of creative works and services covering a wide range of areas including advertising, graphic design, software and computing, architecture, interior design, arts and crafts, acquisition of art works, stage design, costume design, and media broadcasting.
- In addition to the conventional role of collection and display of art works and arts performances, the WKCD project, riding on the gradual evolution of museums and performing arts into sites of creative production and education brought about by technological changes which enable them to cut across creative industries through diverse ways, would provide a strong impetus for the proposed M+ and Performing Arts Facilities as well as existing arts and cultural facilities to become more and more integrated with the evolution of creative industries.
- The construction of the Exhibition Centre would facilitate the development of the arts and creative market, providing a platform for art fairs, auctions, seminars and exhibitions on creative industries, etc. These events are suffering from shortage of venues and high venue rental at the moment but should be promoted to enhance Hong Kong's position as Asia's World City.

11. The WKCD project will provide ample opportunities for the public to enhance understanding about our own culture and the arts, and facilitate our cultural exchanges with the rest of the world. As market tastes and preferences are often rooted in and related to social norms and cultural ecology,

the enhanced public appreciation of, and participation in culture and the arts, and the knowledge thus acquired will enable Hong Kong to be more adaptive to the diverse market dynamics, and be more sensitive to cross-cultural management issues and new business opportunities around the world. Through cultural exchanges, Hong Kong will also be more sensitive to and appreciative of the norms, lifestyles and work practices of other places, while being more effective in conveying ours to overseas clients and business partners. Hong Kong companies will then be in a better position to be market leaders in a global environment where product customisation has become increasingly important.

12. Appreciation of the arts and culture often inspires creative thinking and artistic ideas – the key ingredients of the value chain in creative industries and other market innovations. Knowledge of cultural evolution and breakthrough can cultivate the respect for freedom of creativity and expression, and generate the desire and courage to alter existing norms and imagine changes. A rich and diversified arts and cultural atmosphere is therefore a driving force behind many innovative economic activities, including creative product and fashion design, new approaches in architecture, generating new consumer experiences, introducing new management concepts, and adopting innovative corporate strategies.

(ii) Nurturing local talents

13. The WKCD will provide the platform and the synergies for the long-term development of Hong Kong's cultural and artistic sector, encourage the sector to strive for artistic excellence and experiment with new concepts and art forms, and promote arts education and cultural appreciation in the community. Arts and culture form an integral part of the knowledge base fundamental to intellectual growth and an in-depth understanding of world development and human civilisation. Promotion of the arts and culture will thus help nurture a pool of talents in Hong Kong who possesses the capacity to absorb new knowledge, think creatively, and be engaged in lifelong learning. Awareness of the diverse culture and value systems will also assist the talents to seize opportunities and cope with challenges in a dynamic and global environment. The knowledge and capacity to appreciate arts and culture should be conducive to the improvement in the overall quality and effectiveness of our talents and human capital.

(iii) Attracting and retaining investors and talents

14. Increasingly recognising the contribution of cultural enrichment to modern life and creative thinking, many investors and talents now attach greater importance to a free, open, vibrant and dynamic cultural environment in selecting a place to develop their businesses and careers. Moreover, cultural education and exposure can make our society more receptive to diversity in norms, cultures and values, which in turn makes Hong Kong more appealing to foreign investors and talents, and more conducive to a vibrant, creative economy.

15. The WKCD project, as an integrated cultural hub, would also open up a wealth of new opportunities to attract and sustain investments in arts and culture, as well as in cultural and creative industries through different forms of partnerships and collaborations for mutual growth and benefits. There are overseas experiences illustrating how the development of a cultural hub has worked as an engine of urban re-generation and city re-branding, which brought about an increase in investments not only in creative industries but also in other business activities with multiple knock-on effects on the economy.

(iv) Raising the quality of life

16. Arts and culture are an increasingly important part of modern life, particularly in a cosmopolitan city like Hong Kong. Apart from offering a variety of choices to enhance the diversity of activities in modern day living, arts and culture also provide the channels for people to project their feelings and imaginations. Such opportunities help to diffuse personal stress. There is also a growing consensus that awareness of arts, culture and the related history can strengthen local identity and social cohesion. These will contribute to social harmony and improve the quality of life in Hong Kong.

(v) Reinforcing economic integration with the Pearl River Delta (PRD)

17. In the face of keener competition from other emerging low-cost centres, the PRD is poised to re-orient gradually towards greater emphasis on high value-added and knowledge-based productions. The unique function of Hong Kong as the international business hub in South China can play a very useful role in this process. In order to better contribute to this upgrading process and grasp the opportunities thus arising, Hong Kong has to sharpen its

edge as a vehicle to channel global market intelligence and ideas. Hong Kong, a cosmopolitan city enjoying a generous exposure to diverse cultures and values from all over the world, can play such a role superbly through promotion of cultural and artistic activities.

18. The development of the WKCD is also advantageous to our economic integration with PRD through its strategic location. Being the proposed terminus of the Hong Kong-Shenzhen-Guangzhou Express Rail Link, West Kowloon, leveraging on the cross-boundary transport link, will have a high potential to become a new cluster of businesses and talents, appealing particularly to those who frequently commute in the PRD. Inclusion of the WKCD in this strategic location will enhance the latter's attraction by giving accessibility to arts and cultural activities, a spacious environment and the prestige associated with the landmark. Besides, the WKCD's locational advantage will facilitate cultural exchanges between Hong Kong and the PRD which are likely to bring about more collaborations between the cultural and creative industries in the two places.

(vi) Branding Hong Kong as a world city

19. A vibrant cultural and artistic ecology is conducive to Hong Kong branding itself as a world city. It adds a new and creative dimension to the way Hong Kong projects its image and communicates with its own local population and with the rest of the world. It also reinforces Hong Kong's brand value as a liberal and cosmopolitan city open to cultural varieties and differences, and creative ideas. Apart from serving as Hong Kong's iconic cultural and architectural landmark, the WKCD will also showcase the sophistication and core values embedded in our city's image.

Economic impact of developing the West Kowloon Cultural District

Technical Paper

*Economic Analysis Division
Economic Analysis and Business Facilitation Unit
Financial Secretary's Office
May 2007*

Technical Paper :

Estimating the tangible economic impact of developing the West Kowloon Cultural District

Purpose

This technical paper is to estimate the tangible economic impacts of developing the West Kowloon Cultural District (WKCD).

Background

2. The Government's objective of developing the WKCD is to develop a world-class arts and cultural district comprising local, traditional as well as international elements, enrich arts and cultural life for the people in Hong Kong and neighbouring areas, make Hong Kong an international cultural metropolis, create job opportunities, and benefit the tourism industry. This is a major initiative to implement the Government's existing policy on arts and culture.

3. In April 2006, the Government set up the Consultative Committee (CC) and its three Advisory Groups, namely the Performing Arts and Tourism Advisory Group (PATAG), the Museums Advisory Group (MAG) and the Financial Matters Advisory Group (FMAG) to re-examine and re-confirm if appropriate, the need for the Core Arts and Cultural Facilities (CACF) in the WKCD as well as the financial implications of developing and operating these facilities. In late 2006, PATAG and MAG have separately provided their recommendations on the provision of the Core Arts and Cultural Facilities (CACF) and other related facilities in WKCD. In early 2007, FMAG has also submitted its financial assessment basing on guiding development parameters for the WKCD, as well as PATAG and MAG's recommendations on the provision of CACF. Details of the WKCD's guiding development parameters and summary Gross Floor Area (GFA) for the proposed development of the WKCD are shown in *Annex 1*.

Economic impacts and assessment methodology

4. The development of the WKCD is expected to generate economic impacts to Hong Kong, which can be quantified in terms of value added contribution to Gross Domestic Product (GDP) and employment creation. Broadly speaking, value added refers to the accrued profits to the respective establishments and employment income for the workforce engaged in the related activities.

5. Economic impact assessment, both in value added contribution and in employment, needs to take into account three different levels of impact:

- (a) the direct impact arising from the activities generated by WKCD,
- (b) the indirect impact that comes from the intermediate input needed to support the activities in (a), and
- (c) the induced impact on the economy as the incomes generated from (a) and (b) lead to increased spending in the rest of the economy through the “multiplier effect”.

6. A Financial Advisor (FA) is engaged by the Government to assist the FMAG in its work. In the FA’s assessment, a total of four scenarios in respect of procurement practices have been proposed for financial analysis⁽¹⁾. Yet for the present economic impact assessment, *the Private Sector Involvement (PSI) Scenario 1A* has been taken as the base case⁽²⁾.

(1) According to the FA’s assessment, Public Sector Comparator (PSC) Scenario adopts the approach that the WKCD project is to be financed, owned and implemented by the public sector. Private Sector Involvement (PSI) Scenarios 1A, 1B and 2 adopt the approach that the WKCD project is to be implemented by the private sector under contract or in partnership with the West Kowloon Cultural District Authority (WKCDA). Under PSI Scenarios 1A and 1B, there is no packaging of arts facilities with commercial or residential development. The difference between PSI Scenarios 1A and 1B lies in their relative level of risk transfer from the public to the private sector, with Scenario 1A containing a lower level of risk transfer. Also, PSI Scenario 1B has taken into account the financing costs. PSI Scenario 2 considers the “packaging” of some of the individual clusters of cultural facilities into mixed cultural/commercial and cultural/residential developments, which may enhance the potential for PSI approach with a higher level of private sector risk transfer and/or allow direct cross subsidy of costs and revenue within individual packages.

(2) The FA’s assessment indicates there would be very limited private sector interest in financing the development and operation of the arts and cultural facilities, owing to the expected construction and operating risks and deficits and to the fact that there are very few private sector players in the market which possess the relevant expertise and experience. This is in line with overseas experiences which show that most cultural facilities do not cover the cost of operations and very few are able to make any contribution to recovering capital cost. There is hence limited scope for the private sector to take the

Impact during the construction process

7. In the *PSI Scenario 1A*, construction of Phases 1 and 2 CACF, supporting facilities, residential and commercial portion of the WKCD, and related management and consultancy services are estimated to cost around \$18,260 million in present value terms⁽³⁾. Such construction spending will be a major boost to the local construction industry and is estimated to create 11 020 jobs providing a total employment of around 33 700 man-years during the construction stage of the WKCD in both Phases 1 and 2. This comprises 10 040 jobs (30 600 man-years) in the construction of the Phase 1 CACF, supporting facilities and residential and commercial segment of the WKCD⁽⁴⁾, and an additional 980 jobs (3 100 man-years) during Phase 2 development in 2022-2031. The details are shown in *Annex 2*⁽⁵⁾.

8. Based on an income multiplier for construction expenditure as determined from a separate macroeconomic modelling exercise, the total value added to the economy generated by WKCD construction spending, taking into account all the three levels of impact as explained in para. 5, is estimated at around \$15,700 million in present value terms. Apart from the job opportunities directly created in the construction industry as estimated in paragraph 7, the indirect and induced impacts of the construction spending will also create additional job opportunities in the rest of the economy, estimated at around 18 360 man-years.

lead in the development and operations of arts and cultural facilities of the WKCD and significant levels of public subsidy are required in virtually all cases. *PSI Scenario 1A* is therefore a more realistic development model for most of the CACF and communal facilities, and is taken as the base case for the present assessment.

- (3) Unless specified otherwise, all monetary figures in the present assessment are expressed in real terms at 2006 prices and all figures related to job creations are on a full-time equivalent (FTE) basis.
- (4) Timing of construction/ operation of the WKCD and its CACF is adopted from the FA's assessment. It is worth noting that the land for residential and commercial uses (excluding those for retail, dining and entertainment uses) in the WKCD will be disposed of in the manner in line with prevailing land and housing policies. For analytical purpose, the FA's assessment assumes that land sale will be carried out in 2010 and construction works will commence in 2011. Also, the construction cost of the communal facilities and infrastructure works (roads, piers and engineering works) is proposed to be funded by the Public Works Programme. The economic impact arising from the construction of these facilities is also included in the assessment, as the facilities are an integrated part of the WKCD project.
- (5) Management fee and certain capital costs for M+ (including initial collection cost, exhibition development costs, conservation lab equipment and library costs) and fire station are excluded in estimating the employment opportunities.

Impact during the operation stage

9. The WKCD is expected to bring about more substantial and sustainable economic impacts during its operation stage from 2014 onwards. As far as the operation of the WKCD is concerned, quantifiable economic impacts could be crudely classified into operation economic impact and visitor economic impact. *Operation economic impact* comprises the impacts brought about by the management and operation of the WKCD and the economic activities involved in programmes, exhibitions and arts performances in the WKCD. *Visitor economic impact* comprises the impacts arising from additional spending by residents and tourists in the economy due to the WKCD.

10. Regarding operation economic impact, there are 3 major types of activities in the WKCD that would generate direct value added and employment opportunities to Hong Kong. *First*, core staff would be engaged to manage the WKCD and its CACF. These are *per se* employment opportunities, and their payroll could roughly represent their value added contribution. *Second*, day-to-day operation of the WKCD also requires the support of various ancillary services. These services will be contracted out and rendered by external services establishments, during which value added and employment opportunities would be created. *Third*, programmes and exhibitions in the M+ (Museum Plus) and Exhibition Centre, and arts performances in the Performing Arts Facilities in the WKCD will generate economic activities and economic impacts. Some of these activities are cross-domain and might be carried in the form of such creative works and services as publishing, marketing, advertising and various design works (graphic, interior and stage designs). The methodological framework for assessing operation economic impact is in *Annex 3*.

11. As to visitor economic impact, the WKCD with its huge number of foreign and local attendees is expected to provide a significant stimulus to the Hong Kong economy. *First*, certain tourists, mostly from the neighbouring economies, will be induced to come to Hong Kong to visit the WKCD and attend the programmes there (the induced tourists), and as they are so attracted to come, all their spending during their full length of stay in Hong Kong constitutes additional spending. *Second*, large numbers of tourists that would have come to Hong Kong even without the project (the base tourists) will attend the exhibitions and arts performances in the WKCD. Some of them would

extend their length of stay, spending additional money in Hong Kong. Also, many other base tourists will visit the WKCD for sight-seeing only, although they will not attend events in the WKCD. *Third*, additional spending will be made by local residents visiting the WKCD and attend the programmes there. The economic impacts so derived can be measured in terms of the value added contribution and employment creation from such additional spending, after discounting spending that might be crowded-out. The details of the methodology for assessing visitor economic impact are in *Annex 4*.

12. The direct and indirect operation impact and visitor impact derived from paras. 10 and 11 above will generate further indirect as well as induced impacts on the economy through the multiplier process. Putting these impacts together, the total or aggregate value added contribution to GDP and employment creation of the development of the WKCD can be reckoned. A schematic depiction of the framework is shown in *Annex 5*.

13. Based on the above methodology and derivation method, the economic impact brought about by the development of the WKCD are quantified and summarised below.

Operation economic impact

14. The FA's assessment projects that there will be a total of 820 core staff engaged in the management and operation of the WKCD in 2015, the first year with all Phase 1 CACF in operation⁽⁶⁾. With the expansion of M+ and additions of Phase 2 Performing Arts Facilities, the number of core staff will gradually rise and stabilise at 980 in 2031⁽⁷⁾. Their payroll, roughly

(6) Operations of Exhibition Centre and all Phase 1 Performing Arts Facilities (except Concert Hall and Chamber Music Hall and Xiqu Centre) are expected to commence in 2014, while operation of Phase 1 M+, Concert Hall and Chamber Music Hall, and Xiqu Centre will commence in 2015. Thus, all Phase I CACF will be in operation in the year 2015.

(7) Operation of Great Theatre 2 and Medium-sized theatres 3 and 4 is expected to commence in 2025, while that of Phase 2 of M+ is expected to commence in 2031. Thus, all Phase 2 CACF will be in operation in the year 2031. Also, the number of core staff refers to the PSC Scenario. The number of core staff under the PSI Scenario 1A is lower, as certain amount of money is reserved for hiring temporary staff to oversee the management and operation of the WKCD. Yet the number of temporary staff is not known. It is deemed that the number of head counts involved in management and operation of the WKCD will be roughly the same under PSC Scenario and PSI Scenario 1A, notwithstanding the difference in payroll. So in the present assessment, the number of core staff in PSC Scenario is adopted. But in calculating payroll, the total expense for core staff and temporary staff under PSI Scenario 1A is adopted.

representing their value added contribution, is expected to be \$250 million in 2015 and \$280 million in 2031. As to the contracted out ancillary services, it is estimated that a total of \$120 million value added and 740 jobs will be created from the provision of these services in 2015. Likewise, the development of Phase 2 CACF would render further impetus to such economic impacts, bringing a total of \$170 million value added and 1 050 jobs in 2031. Details are shown in *Annex 6*⁽⁸⁾.

15. In addition, activities involved in programmes, exhibitions and arts performances in the WKCD will also generate economic impact. It is estimated that a total of \$510 million value added and 2 180 jobs will be generated in 2015 from these activities. The flourishing of local cultural and arts groups and organisations upon the development of the WKCD, coupled with a more appreciative local environment towards cultural and performing arts activities, will come along with higher quality programmes, exhibitions and arts performances in the WKCD. This is expected to bring, *inter alia*, higher programme expenditure and more comprehensive economic activities. Taking into account such growth potential, about \$870 million value added and 3 620 jobs in 2031 (*Annex 7*) will be generated by the programmes, exhibitions and arts performances in the WKCD in 2031. The value added and jobs will increase further and stabilise at around \$970 million per annum and 4 050 by 2045.

16. The combined direct impacts given in paragraphs 14 and 15 above will further generate, through the multiplier process, indirect and induced impacts on the economy. In sum, the total operation economic impact, including direct, indirect and induced impacts, are estimated to be \$1,600 million in value added and 5 600 jobs in 2015. The impacts are expected to grow steadily to \$2,400 million in value added and 8 450 employment opportunities in 2031, stabilising at \$2,590 million per annum and 9 110 jobs by 2045. The details are summarised in *Annexes 6-8*.

(8) It should be noted that the economic impact from such commercial activities in the WKCD as retail, food and beverage, are not included in operation economic impact, as they have been subsumed in visitor economic impact.

Visitor economic impact

17. The number of attendees to the WKCD's programmes, exhibitions and arts performances is projected to be around 5.8 million in 2015. This comprises around 4.6 million visits by local residents and around 1.2 million visits by tourists. Upon the completion of Phase 2 CACF, attendance is expected to be around 8.6 million in 2031 and stabilise at around 9.1 million in 2045 (*Annex 9*). Taking into account relevant visits per guest ratios, the total number of residents and tourists attending the exhibitions/arts performances in WKCD will be around 2.5 million in 2015, gradually rising to around 4.3 million in 2031 and further to the stable level at above 4.5 million per annum in 2045 and thereafter.

18. It is worth noting that certainly many other tourists will visit the WKCD for sight-seeing, but will not attend any exhibitions/ arts performances there. International experiences also demonstrate that the number of such tourists could be substantial. It is crudely estimated that there will be around 1.5 million tourists visiting the WKCD for sight-seeing in 2015, rising to around 2.8 million per annum in 2031⁽⁹⁾. Taken together, the total number of residents and tourists (including tourists attending the exhibitions/ arts performances and tourists visiting WKCD for sight-seeing only) will be around 4.0 million in 2015, gradually rising to around 7.1 million in 2031 and further to around 7.3 million per annum in 2045 (*Annex 10*).

19. Based on the estimated per head spending in the WKCD and a fading crowding-out effect, total additional spending by local residents will amount to around \$340 million in 2015⁽¹⁰⁾. After increasing to around \$600

(9) It must be recognised that the number of tourists visiting the WKCD for sight-seeing only is difficult to project, as the actual number of such tourists will obviously depend on the total number of tourists visiting Hong Kong, the sources of the tourists and other relevant factors. So any projection is to a certain extent judgemental and should be viewed in a proper perspective. Details of the estimation method are given in Annex 4. It is also worth noting that because only a very small proportion of these visitors is expected to extend their length of stay in Hong Kong, their contribution to total additional spending by all tourists will be relatively small compared with those of the induced tourists and the base tourists attending events in the CACF.

(10) The per head spending for local residents is estimated to be \$207 in 2015, \$228 in 2031 and \$243 in 2045. This covers the transportation expenditure to and from the WKCD, and the expenditure on the retail and dining facilities in the WKCD. Nevertheless, resident expenditure on ticket/ admission fee and the subsequent economic activities are not included in the visitor economic impact to avoid double counting, as the economic activities involved in exhibitions and arts performances have already been

million in 2031, their additional spending is expected to stabilise at around \$680 million per annum in 2045 and thereafter. Meanwhile, additional spending by tourists will be more significant, amounting to around \$1,170 million in 2015 and gradually growing to over \$3,520 million in 2031 and around \$3,720 million per annum in 2045 and thereafter⁽¹¹⁾. Taken together, it is estimated that the additional spending by residents and tourists will amount to around \$1,520 million in 2015, increasing to \$4,110 million in 2031 and \$4,390 million per annum in 2045 and thereafter (*Annex 11*).

20. Applying the relevant value added to business receipts ratios, the total visitor economic impacts, including direct, indirect and induced impacts, are estimated at around \$1,060 million in 2015 value added contribution to GDP and are expected to further increase to about \$2,880 million in 2031. It is expected to increase to \$3,080 million per annum in 2045 and thereafter (*Annex 12*).

21. On employment creation, the total additional spending is expected to directly provide around 2 870 additional jobs in 2015, rising to around 7 440 in 2031 and 7 960 in 2045 and thereafter. The indirect and induced impacts will provide around 1 510 additional jobs in 2015, rising to around 4 190 jobs in 2031 and 4 470 in 2045 and thereafter. Taken together, the additional number of jobs is estimated at around 4 380 in 2015, rising to around 11 630 in 2031 and 12 430 in 2045 (*Annex 13*).

Total economic impact

22. Combining the operation and visitor economic impacts, the development of the WKCD is expected to bring \$2,660 million value added to GDP and 9 980 jobs in 2015. With the opening of Phase 2 CACF and the WKCD's enhanced attractiveness to tourists, its value added contribution to GDP and jobs will rise steadily to \$5,280 million and 20 080 respectively in

included in operation economic impact. Also, the gradual increase in per head expense mainly reflects the decrease in assumed crowding out ratio from 30% to 15% over the same period.

(11) This includes the related increased spending on air passenger services provided by the local airlines. It is crudely assumed that induced Mainland tourists, regardless of their length of stay, will on average spend \$200 per head on cross-boundary transportations. Induced visitors from the rest of the world will spend much higher, at \$2,200 on cross-boundary transportation, as most of them will travel to and leave Hong Kong by air.

2031, and further to \$5,670 million per annum and 21 540 by 2045 (*Annex 14*).

23. In aggregate terms, the present value of cumulative value added from both operation and visitor economic impact, by discounting the above streams of economic impacts up to the year 2059 with a real social discount rate of 4%, is estimated at around \$71,040 million⁽¹²⁾ (*Annex 15*). This indicates that the development of the WKCD could bring substantial economic impact, in terms of both value added contribution to GDP and employment creation, to the economy of Hong Kong.

Sensitivity tests

24. The base case result indicates that the development of the WKCD could bring substantial positive economic impact to Hong Kong. To examine the robustness of the result, especially of the visitor economic impact, two sensitivity tests have been undertaken and are compared with the base case. The tests are summarised as follows :

Test 1 : Number of tourists (including those attending the exhibitions/ arts performances as well as those visiting the WKCD for sight-seeing only) reduces by 20% from the base case. Resident visits to the exhibitions/ arts performances in the WKCD will rise correspondingly to make up the shortfall in attendance so that all other operating parameters of the WKCD (such as attendance rate) remain unchanged.

(12) Given the time value of money, it is necessary to discount the future streams of economic impact, which occur in different points of time (from the year 2014 to 2059), before aggregating the economic impacts arising from developing the WKCD to a particular reference year (the year 2006 in the present assessment). Also, this economic impact so reckoned is different from the operating revenue in individual CACF in the FA's assessment, which focuses on financial aspects of the development of WKCD. The economic impact in terms of value added contribution measures the additional income generated to the economy as a whole arising from the development of the WKCD while the operating revenue represents the financial flow to the WKCD and its CACF. Part of the operating revenue, the fundraising income in particular, only represents a transfer of income within the economy during which no economic activities are involved. Also, the economic impact of those activities that will bring about other operating revenue (hire income/ admissions, retail and catering, and programmes) has already been included in the operation economic impact. Hence, to avoid double counting, the economic impacts should not be matched against the overall or operating deficit of the CACF.

Test 2 : Average per head spending of all visitors (residents and tourists) reduces by 20% from the base case. All other operating parameters of the WKCD remain unchanged.

25. The results of these tests are summarised below. The tests indicate that the positive economic impact is likely to remain substantial even under unfavourable circumstances.

	<u>Base case</u>	<u>Test 1</u>	<u>Test 2</u>
Total economic impact (in 2045)			
Value added contribution (\$ Mn)	5,670	5,370 (-5%)	5,050 (-11%)
Employment creation	21 540	20 420 (-5%)	19 050 (-11%)
Cumulative value added contribution (\$ Bn in present value terms)	71.0	67.1 (-5%)	63.6 (-10%)

Note : Figures in brackets represent the change from the base case.

Limitations

26. It is worth noting that the present assessment is still subject to a number of limitations. In line with the FA's assessment, the present assessment adopts a long evaluation period, up to the year 2059. Assessment under such long evaluation period is subject to uncertainty, as parameters in the distant future, particularly on the programme expenditure, attendance and visitor spending profile, are difficult to predict and the estimates could thus differ from actual outcome.

Economic Analysis Division
 Economic Analysis and Business Facilitation Unit
 Financial Secretary's Office
 May 2007

Guiding development parameters and Summary Gross Floor Area (GFA) for the proposed development of the WKCD

(a) Guiding development parameters for the WKCD :

Maximum plot ratio	1.81
Residential development	No more than 20% of the total GFA
GFA of CACF	At least 30% of the total GFA

(b) Summary facility component and Gross Floor Area (GFA) for proposed development of the WKCD

	<u>GFA</u> (sq. metre)
Core Arts and Cultural Facilities (CACF)	263 345
M+ (Museum Plus) [^]	61 950
Exhibition Centre	12 500
Performing Arts Facilities	188 895
<i>Mega Performance Venue</i>	51 394
<i>Great Theatre 1</i>	20 720
<i>Concert Hall and Chamber Music Hall</i>	23 520
<i>Xiqu Centre (Main and Small Theatres)</i>	20 937
<i>Medium Sized Theatre 1</i>	9 450
<i>Medium Sized Theatre 2 and Black Box Theatre 1</i>	13 272
<i>Black box Theatres 2 and 3</i>	7 273
<i>Black box Theatre 4</i>	4 424
<i>Great Theatre 2 and Medium Sized Theatre 3</i>	28 455
<i>Medium Sized Theatre 4</i>	9 450
Other Arts and Cultural Uses	15 000
Transport Facilities*	80 010
Communal Facilities⁺	20 000
Engineering works*	66 795

Notes : Phase 1 includes 150 990 sq.m. of GFA of Performing Art Facilities, 43 365 sq.m. GFA of M+ and 12 500 sq.m. GFA of Exhibition Centre. Phase 2 includes 37 905 sq.m. GFA of Performing Arts Facilities and 18 585 sq.m. GFA of M+.

([^]) Excluding off-site storage and conservation laboratories (14 000 sq.m. Net Operating Floor Area / 16 800 sq.m. GFA).

(*) Construction Floor Area.

(⁺) Not including public open space (at grade) and public open space (roof-top garden).

Employment creation during construction stage of the WKCD

	<u>Workers</u> (head count)	<u>Professional/ technical staff</u> (head count)	<u>Total</u> (head count)	<u>Employment opportunities</u> (man-years)
Phase 1 (2008-2016)	9 410	630	10 040	30 600
Phase 2 (2022-2031)	910	70	980	3 100
Total			11 020	33 700

Notes : The employment creation are estimated basing on the construction costs and consultancy fee incurred during construction stage of the WKCD. These estimates are rendered by the Environment, Transport and Works Bureau.

Summary of the methodology for assessing operation economic impact of the WKCD

As far as operation economic impact is concerned, there are 3 key sources of economic activities within the WKCD that would yield economic impacts to Hong Kong, in terms of value added contribution to GDP and employment creation. *First*, to oversee the management and facilitate the operation of the CACF, core staff would be engaged. Their economic impacts could be represented by their payroll. *Second*, day-to-day operation of the WKCD also requires the support of various ancillary services. These services will be contracted out and rendered by external establishments, during which value added and employment opportunities would be created. *Third*, programmes and exhibitions in the M+ (Museum Plus) and Exhibition centre, and arts performances in the Performing Arts Facilities will involve economic activities and in turn economic impacts. Nevertheless, it has to be recognized that part of the services and activities will be provided by overseas entities and the related value added and employment should not be counted as economic impact to Hong Kong. Schematic depictions of this framework are in Appendixes 1 and 2 to this Annex.

2. The methodology for assessing operation economic impact of the WKCD thus involves *first*, the number of core staff to be engaged in the management and operation of WKCD and their payroll. *Second*, the expenditure on contracted out ancillary services. *Third*, the number of exhibitions/ arts performances to be held in each CACF and the expenditure on different economic activities. Then based on relevant assumptions with reference to Leisure and Cultural Services Department's (LCSD) advice and to a set of value added to business receipts and employment to value added parameters estimated with reference to the statistics from the Census and Statistics Department's (C&SD) relevant surveys, the value added contribution as well as employment opportunity could be estimated. *Direct value added contribution* represents the incomes generated initially from the above three sources. *Indirect value added contribution* refers to the incomes generated from subsequent rounds of indirect spending on the further range of economic activities in support of the services and activities. *Induced value added contribution* represents the further impact on to the economy as the incomes generated from direct and indirect value added contributions lead to increased spending through the multiplier effect.

3. In summary, the quantifiable economic impacts, in terms of value added contribution to GDP and employment creation, will hinge on a number of key parameters and assumptions. These parameters and assumptions, which are subject to uncertainty and variation, are elucidated as follows :

(a) *Number of core staff and payroll*

This is based on the Financial Advisor's (FA) estimates on the number of core staff and the respective payroll for the WKCD Authority and for each of the CACF. These are planning parameters for financial assessment purposes and hence the actual outcome might be different. But for the present assessment, these parameters are adopted as assumptions.

(b) *Expenditure on contracted out ancillary services*

The FA's assessment also contains planning parameters on the expenditure on various contracted out ancillary services for each of the CACF. Expenditures included in the present assessment are : marketing and advertising expenditure, expenditure on sound and technical services, expenditure on electrical equipment and stage lighting, and expenditure on such supportive services as security, cleaning and building maintenance. The expenditures are adopted as assumptions for the present assessment⁽¹⁾.

(c) *Economic activities involved in programmes, exhibitions and arts performances*

Programmes, exhibitions and arts performances held in the CACF will also bring about economic activities, which in turn will generate value added and employment opportunities. A majority of the activities will be broadly similar for both exhibitions and programmes : design, editorial and publishing services, marketing and advertising. However, more specific services might be required, depending on the nature of the facility concerned. Programmes and exhibitions in M+ will require fabrication of exhibitions, additional security services (apart from those already included in the contracted out ancillary services) and insurance for exhibition materials. On the other hand, arts performances will also involve artists and production crew, stage production, transportation and hotel for artists and production crew.

The FA's assessment contains planning parameters on the number of exhibitions/ arts performances to be held in each CACF, which are adopted as assumptions for the present assessment. Also, with reference to past exhibitions/ arts performances in the venues under its management, LCSD has advised on first, the estimated average expenditure for various types of programmes/ exhibitions/ arts performances, with scales similar to those expected to be held in WKCD and second, the share of expenditure on different types of services/ activities (such as artists fee, production costs, advertising). Furthermore, envisaging the qualitative improvements in exhibitions and programmes, the average expenditure per programme/ exhibition/ arts performance is assumed to grow steadily⁽²⁾. Fees and hire charges paid for the use of CACF and related facilities are excluded from the assessment as the related impact has already been covered in (a) and (b) above.

(1) The economic impacts arising from expenditures on initial and ongoing collections, initial library set-up and ongoing operation, initial exhibition development and overhaul items, are not estimated. The activities involved in these expenditures are very specialized and specific, and thus their impacts are difficult to be estimated with reference to existing broad-level methodology. Thus the value added contribution and employment creation from contracted out ancillary services are to a certain extent underestimated.

(2) The average expenditure for each exhibition in the Exhibition Centre and each performance in the Performing Art Facilities is assumed to grow by 0.5% p.a. from 2015 to 2045.

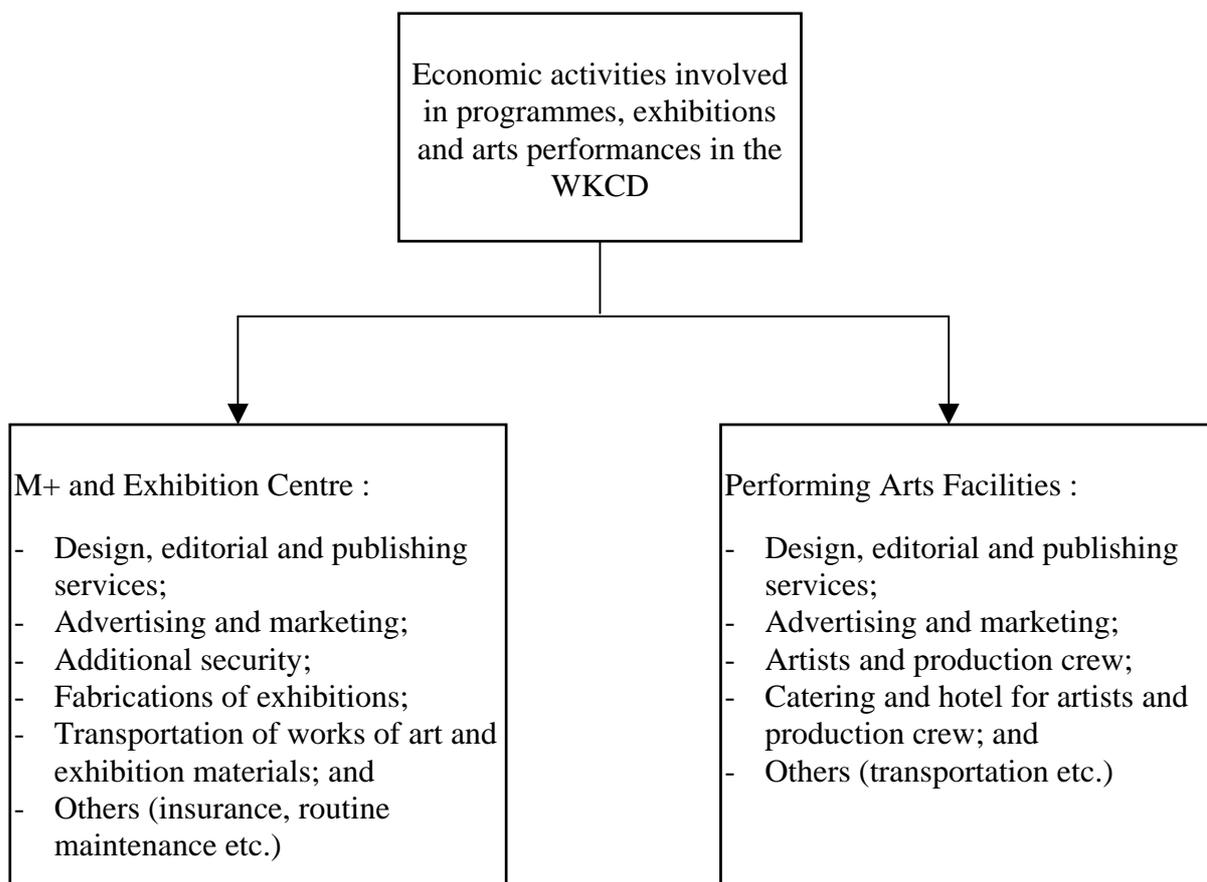
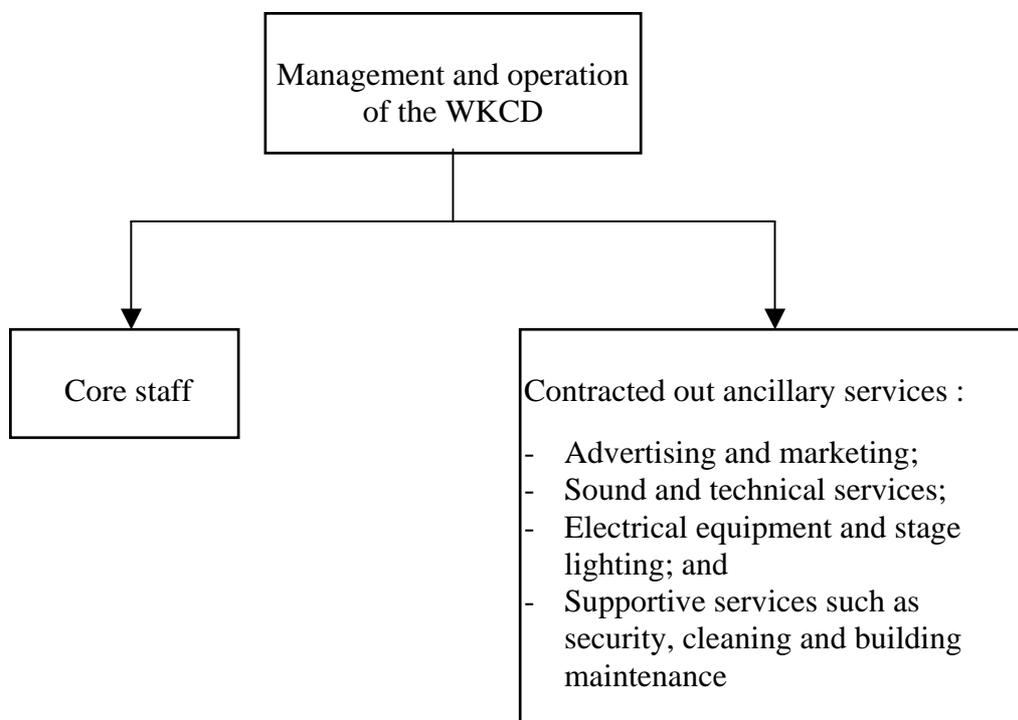
It is worth noting that the economic impact of certain commercial activities in the WKCD such as retail, food and beverage are not included in the operation economic impact, as they will be subsumed in visitor economic impact. Also, the economic impacts arising from the operation of residential and office segment are not included in the assessment.

(d) *Activities carried out by overseas entities*

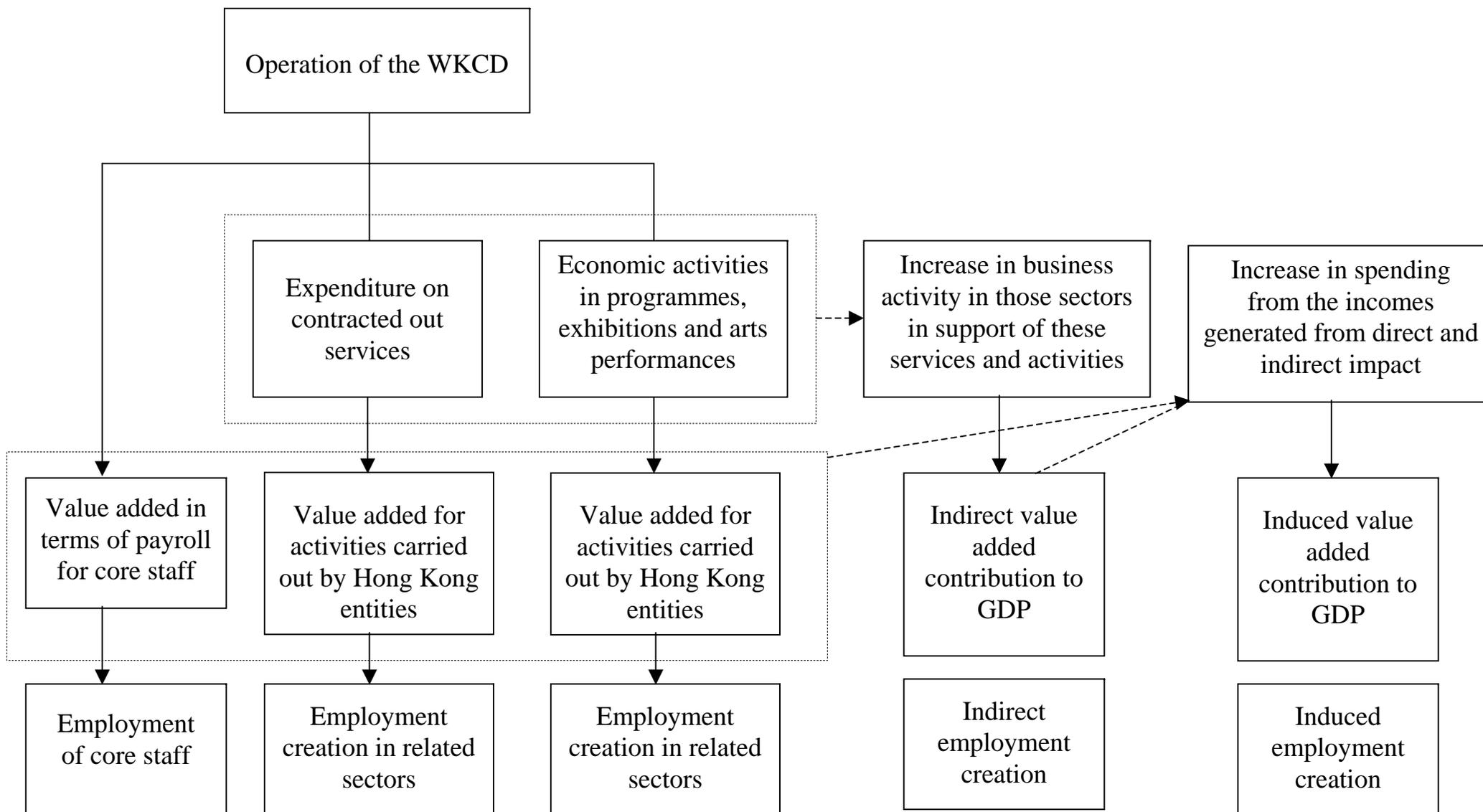
Not all activities involved in exhibitions and arts performances should be counted as generating economic impact in Hong Kong, as some of them will be carried out by non-Hong Kong entities. First, certain arts performances will be performed by overseas artists groups (artists and production crew), and hence the fee for overseas artists and production crew represent outflow from Hong Kong. Second, in M+'s exhibitions, loan fee/ royalty to loaning museums and co-organisers outside Hong Kong likewise do not bring any economic impact to the local economy. A separate set of parameters has been applied to different venues to exclude these outflows to overseas parties⁽³⁾.

(3) Based on LCSD's advice, it is crudely assumed that all of the loan fee for materials in blockbuster exhibitions in M+ will be paid to loaning museum and co-organiser outside Hong Kong. For normal size exhibitions, the share is crudely assumed at 50% of the total loan fee. For Performing Arts Facilities, it is crudely assumed that performances by local groups will take a share of 50% usage in Great Theatre 1. Their expected usage is around 70% in Mega Performance Venue, Concert Hall, Xiqu Centre Main Theatre and Great Theatre 2. The share is expected to be higher, at 80%, for Chamber Music Hall and Xiqu Centre Small Theatre. As to Medium Sized Theatres and Blackbox Theatres, the shares are expected at 90% and 95% respectively. Also, it is crudely assumed that air transportation to overseas airline companies will account for 6% of the total expenditure for blockbuster exhibitions and 4% for normal exhibitions in M+ (for transportation of works of art and exhibition materials), and around 2% of the total expenditure for arts performances in Performing Arts Facilities (for transportation of artists and production crew).

Summary of services and activities to be included in assessing operation economic impact of the WKCD



Summary of the methodology for assessing operation economic impact of the WKCD



Summary of the methodology for assessing visitor economic impact of the WKCD

There are 3 key sources of additional visitor spending which could arise from the development of the WKCD in Hong Kong. *First*, certain tourists, mostly from the neighbouring economies, will be induced to come to Hong Kong to visit the WKCD (the induced tourists), and as they are so attracted to come, all their spending during their full length of stay in Hong Kong constitutes additional spending. *Second*, it is reckoned that a significant number of the tourists who would have come to Hong Kong even without the project (the base tourists) will visit the WKCD. Some of them would extend their length of stay and spend additional money in Hong Kong due to the development of the WKCD. Also, many other base tourists will visit the WKCD for sight-seeing only, although they will not attend events in the WKCD. *Third*, local residents attending programmes, exhibitions or arts performances in the WKCD will make additional spending. A schematic depiction of this framework is in Appendix 1 to this Annex.

2. Such additional spending of attendees will in turn bring direct, indirect as well as induced value added contributions to the economy. *Direct value added contribution* represents the incomes generated initially from additional spending of the attendees on the various categories of goods and services produced by the sectors concerned⁽¹⁾. *Indirect value added contribution* refers to the incomes generated from subsequent rounds of indirect spending on the further range of economic activities in support of the concerned sectors. *Induced value added contribution* represents the further impact on to the economy as the incomes generated from direct and indirect value added contributions lead to increased spending through the multiplier effect.

3. The methodology for assessing visitor economic impact of the development of WKCD hence involves first projection of the level and composition of attendance in the CACF, second estimating the additional spending of residents and tourists visiting the WKCD and third assessing the value added as well as employment opportunities that can be generated from such additional spending.

4. As such, the amount of quantifiable economic benefits, specifically value added contribution to GDP, that will be brought about by such additional spending will depend on a number of key parameters and assumptions, the values of which are subject to uncertainty and variation. The first set of

(1) Local residents are expected to spend on domestic transportation, retail, restaurants and ticket/ admission fee of CACF. To avoid double counting, residents expenditure on ticket/ admission fee and the subsequent economic activities should not be included in the visitor economic impact, as they have already been included in the operation economic impact.

parameters and assumptions, as follows, relates to the attendance and visitor projection :

(a) *Share of local residents and tourists in attendance*

The Financial Advisor's (FA) assessment contains planning parameters (number of exhibitions/ arts performances, seat capacity and attendance rate) for reckoning the total attendance for each of the CACF. To split the total attendance into local resident visits and tourist visits, a set of parameters, with reference to the operating characteristics of the proposed facilities and advice of Home Affairs Bureau (HAB) and LCSD, have been deliberated and applied to the total attendance. A higher share of tourist visits in total attendance is taken for M+ (Museum Plus) and Exhibition Centre. Other Performing Arts Facilities are also expected to attract tourists, though to a lesser extent. The share of tourists in total attendance would gradually increase over time, reflecting the gradual development of the WKCD's international reputation as a world-class cultural district and its attractiveness to tourist⁽²⁾.

(b) *Share of base and induced tourists*

Tourists attending exhibitions or arts performances in the WKCD could be further divided into base tourists and induced tourists. In the present assessment, the number of induced tourists is derived from an assumed ratio of induced tourists to base tourists. The ratio of induced tourists to base tourists is relatively lower during the first few years of operation, and would gradually increase over time, as the gradual development of the WKCD's international reputation is expected to attract an increasing number of induced tourists.

It is important to note that induced tourists are reckoned to have a narrower source span than base tourists, as they are expected to come from Asia, largely the Mainland. It is very likely that many of the induced tourists from the nearby cities in the Mainland will join one-day or two-day tour groups to Hong Kong primarily to attend certain performances, given the continuous improvement in cross-boundary transportation between the Mainland and Hong Kong. Indeed, the terminal station of the Hong Kong-Shenzhen-Guangzhou Express Rail Link is proposed to be situated in West Kowloon. So in the present assessment, it is crudely assumed that 40% of the induced tourists from the Mainland will take short trips⁽³⁾, while the remaining induced tourists will have an average length of stay and per diem spending similar to their base

(2) It is crudely assumed that resident visits and tourist visits account for respective shares of 75% and 25% of the total attendance in M+ and Exhibition Centre during their first year of operation. The share of resident visits would decrease by 2% p.a. and eventually stabilise at 60%. For such Performing Arts Facilities as Mega Performance Venue, Great Theatres, Concert Hall, Chamber Music Hall, Xiqu Centre Main Theatre, the share of resident visits is assumed at 85% during their first year of operation, and the share will drop by 1.0% p.a. and stabilise at 75%. For other Performing Arts Facilities, the resident visits share is assumed at 90%, and the share will reduce by 0.8% p.a. and eventually stabilise at 80%.

(3) It is assumed that in 2015 around 65% of the induced tourists will come from the Mainland and 35% from rest of the world. These shares will change and stabilise at 71% and 29% respectively in 2031. Thus the 40% of induced tourists from the Mainland who will take short trips to Hong Kong will account for about 26% of all the induced tourists, rising slightly to about 28% in 2029. The average length of stay for this particular group of induced tourists is assumed to be 1.5 nights. Yet their per diem spending is assumed to be similar to their base tourist counterpart, at \$1,170.

tourist counterpart. These special features of induced tourists have been taken into account in estimating the additional spending by them.

(c) *Visits per guest ratio*

For residents, certain attendees are expected to make more than one visit to different CACF in the same year. For tourists, some might likewise visit more than one exhibitions and arts performances during their visits to Hong Kong. To estimate the number of residents or tourists (in head count) from the respective attendance, a set of visits per guest ratio is applied to net out the attendance among the facilities⁽⁴⁾.

(d) *Tourists that will visit the WKCD as a tourist attraction*

Many other tourists will visit the WKCD as a tourist attraction and will not attend any exhibitions/ arts performances held there. Some of these tourists might extend their length of stay in Hong Kong and bring economic impact. Yet, the number of tourists reckoned from attendance of CACF does not include such tourists. At the same time, it must be recognised that it is difficult to project the number of such tourists and any projection is to a certain extent judgemental and subject to uncertainty. With reference to overnight visitors' major place of visits in Hong Kong in Visitor Profile Report 2006 published by the Hong Kong Tourism Board and projected number of tourists visiting Hong Kong in the HK2030 study conducted by the Planning Department, a set of parameters have been adopted to project the number of tourists that will visit the WKCD for sight-seeing purpose⁽⁵⁾.

(4) In the present assessment, it is crudely assumed that the visit per guest ratio for residents is 2.25. For base tourists and induced tourists, their respective visit per guest ratios are assumed at 1.25 and 2.50. As induced tourists will visit Hong Kong mainly because of the development of the WKCD, they are expected to have a higher visit per guest ratio than base tourists, that will come to Hong Kong regardless of the development of the WKCD. Nonetheless, base tourists might extend their stay in Hong Kong for attending the exhibitions and/ or arts performances in the CACF.

(5) In the present assessment, it is crudely assumed that about 1.5 million tourists in 2015 will visit the WKCD for sight-seeing only. The number of such tourists will rise to around 2.8 million per annum in 2031. With this group of tourists, it is further assumed that 10% of them will lengthen their stay in Hong Kong by 1 night and the rest will not lengthen their stay in Hong Kong.

A schematic depiction of the relationship between this set of parameters and total attendance is in Appendix 2 to this Annex.

5. Not all the spending associated with the WKCD could be treated as additional spending in generating additional value added for the economy. For local residents, it is possible that their spending in WKCD and its CACF will be offset to a certain extent by a decrease in their spending on other consumption items, given their budget and time constraint. Also, the economic activities arising from residents spending on ticket/ admission fee have already been included in the operation economic impact, and hence only their spending on ancillary services (such as retail, dining and transportation) should be included in the visitor economic impact. For base tourists, part of their spending in WKCD and CACF may be offset by reduced spending of other kinds such as local tours, shopping and eating-out. In estimating the economic benefits stemming from WKCD, the extent of such crowding-out effects is captured by the following :

(a) *Additional length of stay of the base tourists*

The longer the additional length of stay assumed for this group of tourists, the smaller is the crowding-out effect, and vice versa⁽⁶⁾.

(b) *Extent of reduction in other consumption spending by local residents arising from their spending in the WKCD*

A 100% reduction means that the spending by local residents in the WKCD is fully offset by a cut-back in their other consumption spending, while at the other end of the spectrum a nil reduction denotes the complete absence of such crowding-out effect⁽⁷⁾.

A schematic depiction of the relationship between this set of parameters and total additional spending by local residents and tourists is in Appendix 3 to this Annex.

6. Other relevant assumptions and parameters for the assessment are listed below :

(6) In the present assessment, it is crudely assumed that in 2014 (the first year of operation for major CACF), 55% of the base tourists will not lengthen their stay and spending in Hong Kong. In other words, for these base tourists, their spending in WKCD will be completely offset by reduced spending elsewhere during their visits in Hong Kong. The remaining 45% will lengthen their stay by 1 night. When all Phase 1 CACF are expected to operate in 2015, the share of base tourists that will lengthen their stay will rise to 56%. The share will rise gradually and stabilise at 92% in 2030 and thereafter. Also, tourists' expenditure on ticket/ admission fee will be deducted from their gross expenditure before estimating the visitor economic impact.

(7) In the present assessment, it is crudely assumed that the crowding-out ratio is 30% in 2015. The ratio will decrease by 1% p.a. and stabilise at 15%. The per head spending by local residents is \$207 in 2015, gradually rising to \$228 in 2031 and \$243 in 2045, reflecting the decreasing crowding-out effect.

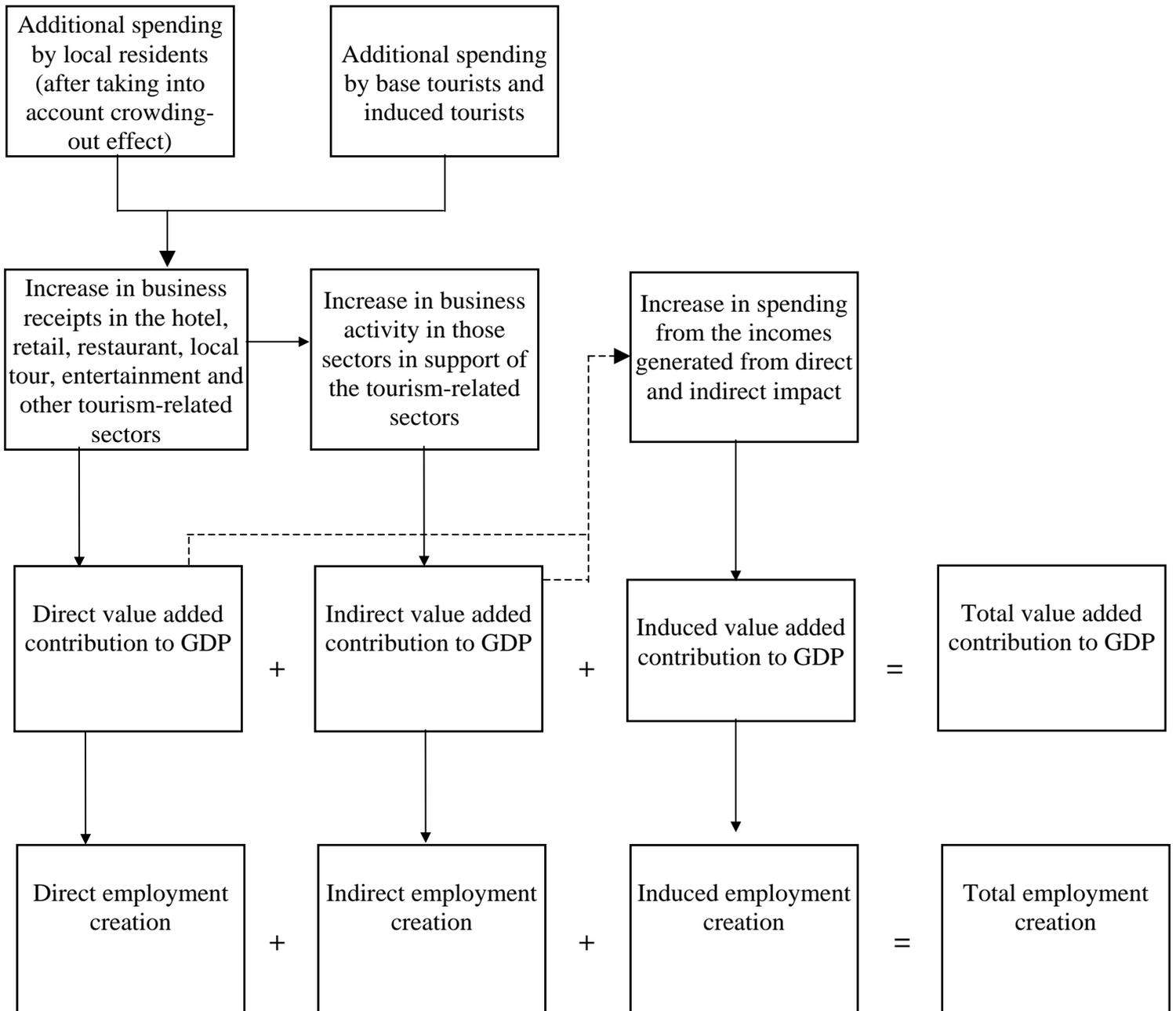
	<u>Mainland</u>	<u>Rest of world</u>
(a) Per diem spending ⁺	\$1,170	\$1,730
(b) Additional length of stay (nights)		
Induced tourists	4 / 1.5 ^{&}	3
Base tourists attending events in CACF [^]	1	1

Notes : (+) Estimated with reference to visitor expenditure statistics by Hong Kong Tourism Board.

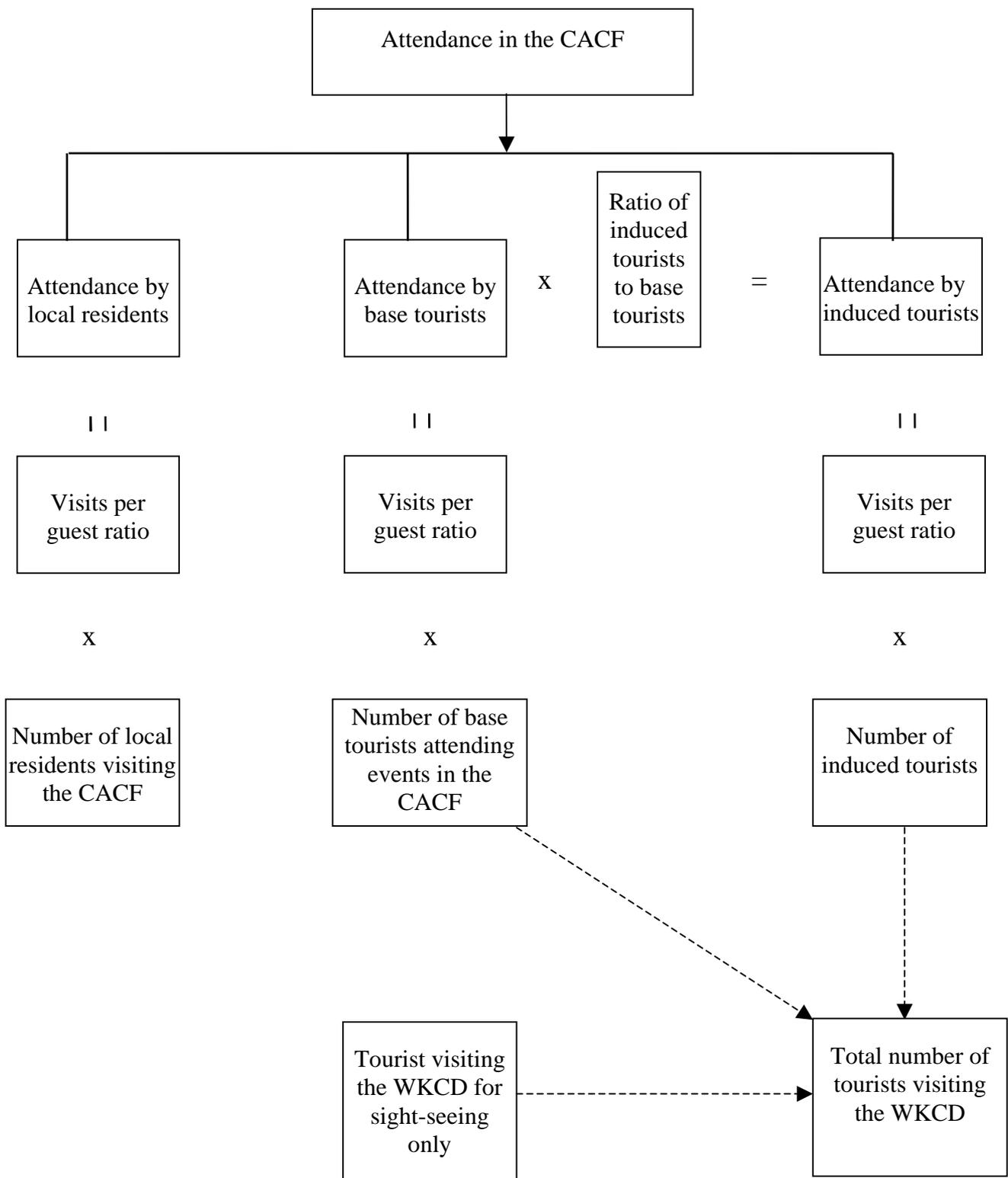
(&) 60% of the induced Mainland tourists will stay 4 nights and the remaining 40% will stay 1.5 nights.

(^) 56% the base tourists will extend their length of stay by 1 night in 2015. This share is expected to rise to and stabilise at 92% in 2030.

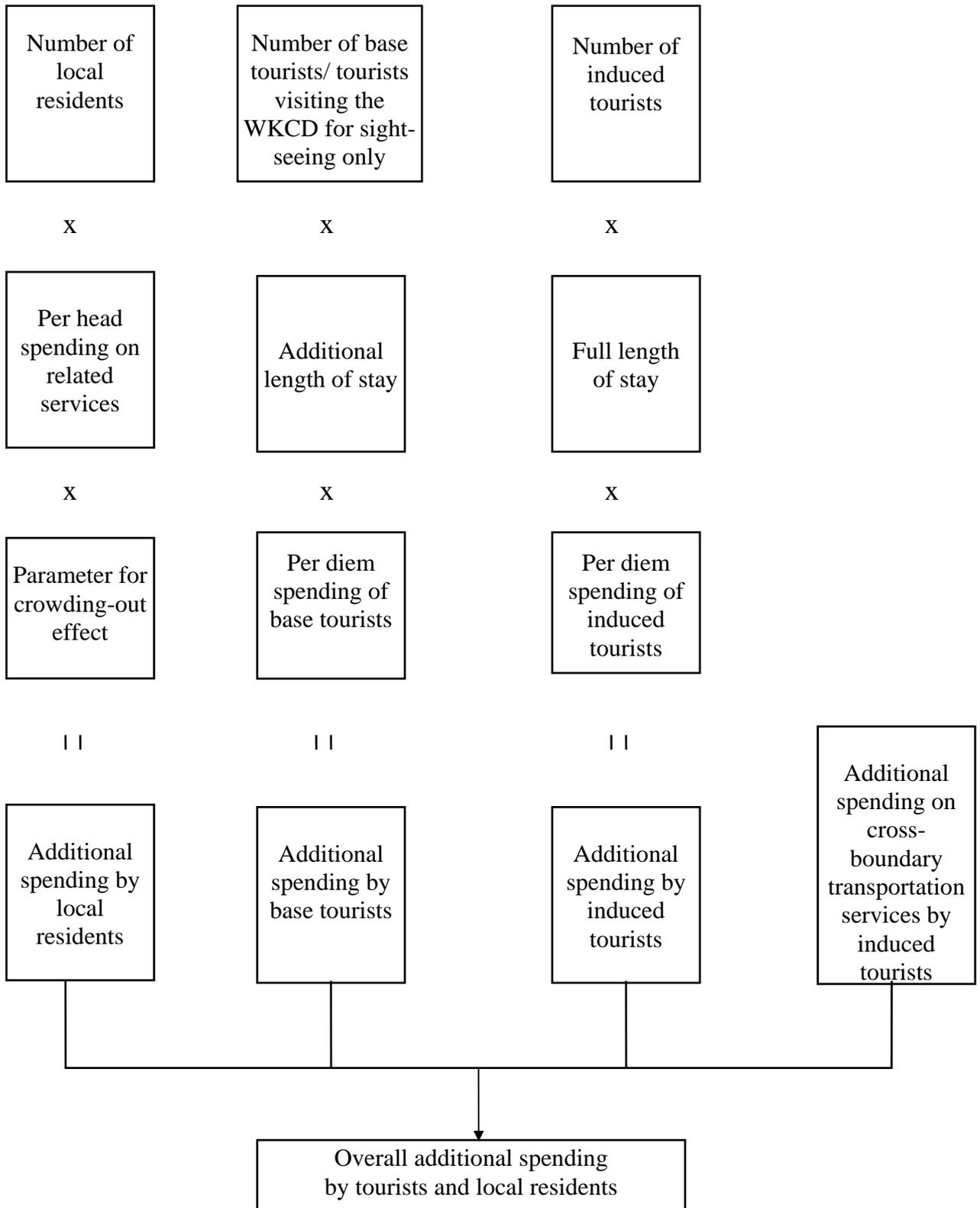
Summary of the methodology for assessing visitor economic impact of the WKCD



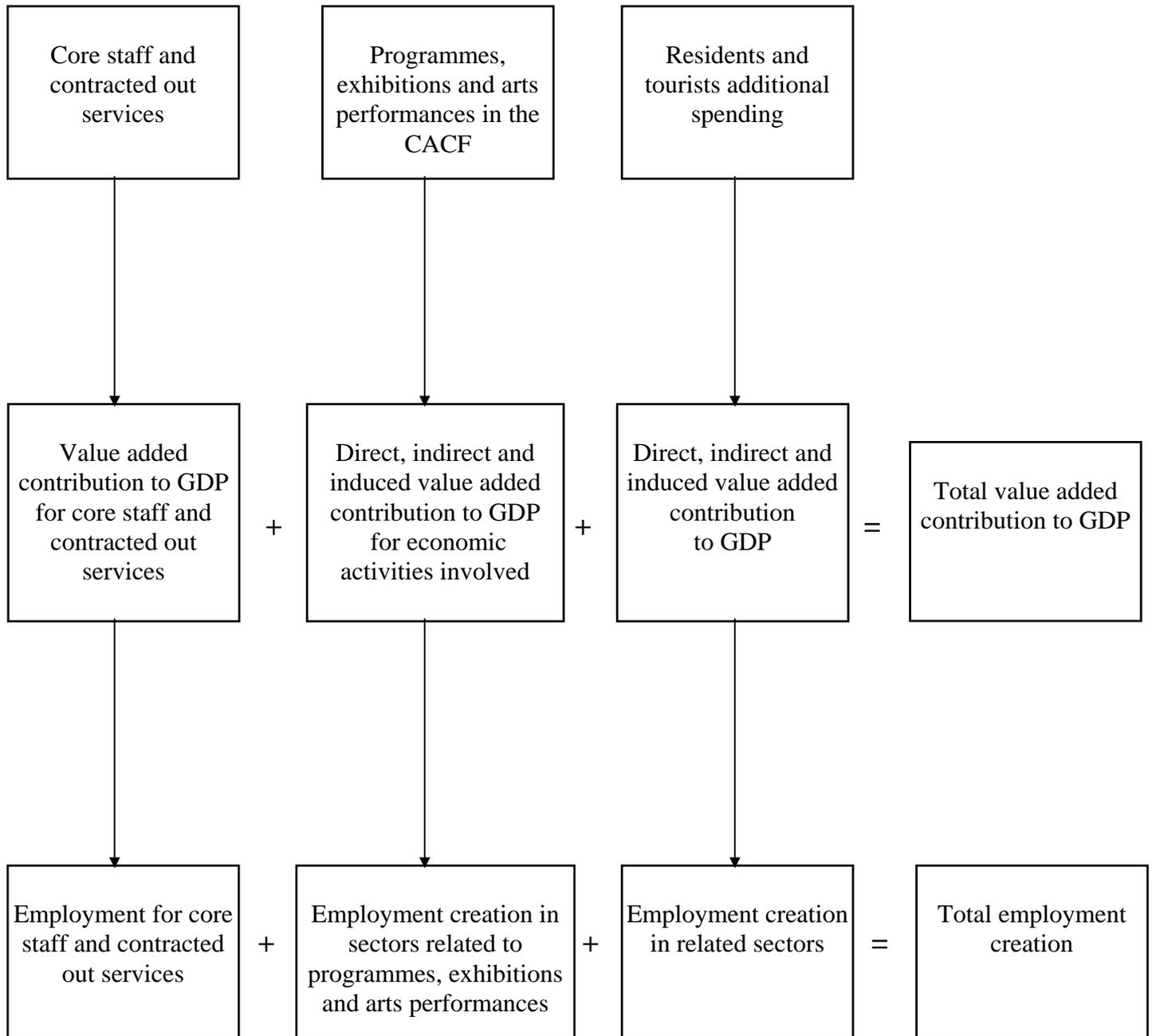
Summary of the methodology for assessing the number of residents and tourists of the WKCD and its CACF



**Summary of the methodology for
assessing total additional spending of residents
and tourists of the WKCD and its CACF**



**Summary of the methodology for assessing
total value added contribution and employment creation
from the development of the WKCD**



**Direct value added contribution and employment creation
of the management and operation of the WKCD under PSI Scenario 1A**

<u>Facilities of the WKCD</u>	<u>Direct value added contribution</u>						<u>Direct employment creation (full time equivalent, FTE)</u>					
	<u>From compensation of core staff⁽¹⁾</u>		<u>From contracted out ancillary services⁽²⁾</u>		<u>Total</u>		<u>Core staff⁽¹⁾</u>		<u>From contracted out ancillary services⁽³⁾</u>		<u>Total</u>	
	<u>2015</u> (\$Mn)	<u>2031</u> (\$Mn)	<u>2015</u> (\$Mn)	<u>2031</u> (\$Mn)	<u>2015</u> (\$Mn)	<u>2031</u> (\$Mn)	<u>2015</u> (No.)	<u>2031</u> (No.)	<u>2015</u> (No.)	<u>2031</u> (No.)	<u>2015</u> (No.)	<u>2031</u> (No.)
WKCD authority	36	36	N.A.	N.A.	36	36	33	33	N.A.	N.A.	33	33
M+ ⁽⁴⁾	136	144	39	52	175	196	320	336	240	316	560	652
Exhibition Centre	6	6	7	7	13	13	33	35	47	47	81	82
Performing Arts Facilities ⁽⁵⁾	75	94	69	109	144	203	434	576	455	691	888	1 267
Total⁽⁶⁾	250	280	120	170	370	450	820	980	740	1 050	1 560	2 030

Notes : (1) These figures are adopted from the Financial Advisor's assessment.

(2) Contracted services include advertising and marketing, electrical equipment and stage lighting services, sound and technical services, and such supportive services as security, building maintenance, and cleaning services. The expenditure on contracted out ancillary services are adopted from the Financial Advisor's assessment. Then various ratios of value added to business receipts, estimated from the results of annual surveys of various economic sectors for 2003-2005 conducted by the Census and Statistics Department (C&SD), are applied to the expenditure to obtain the value added contributions.

(3) The employment created from contracted services are estimated with the ratios of employment per million value added in the sectors providing the services, as reckoned based on the results of annual surveys of various economic sectors for 2003-2005 conducted by C&SD.

(4) Including Phase 1 in 2015 and Phases 1 and 2 in 2031. The economic impact arising from expenditure on initial and ongoing collections, initial library set-up and ongoing operation, exhibition development and overhaul items, are not estimated. The activities involved in these expenditures are very specialized and thus the impact is difficult to be estimated with reference to existing methodology at a broad level. Thus the value added contribution and employment creation from contracted out ancillary services are to a certain extent underestimated.

(5) Including Phase 1 facilities in 2015 and Phases 1 and 2 facilities in 2031. Core staff also includes those for the management of open space.

(6) Figures may not add up to the corresponding total due to rounding.

**Direct value added contribution and employment creation from
programmes, exhibitions and arts performances in the WKCD under PSI Scenario 1A**

<u>Facilities of the WKCD</u>	<u>Direct value added contribution⁽¹⁾</u>			<u>Direct employment creation (FTE)⁽²⁾</u>		
	<u>2015</u> (\$Mn)	<u>2031</u> (\$Mn)	<u>2045</u> (\$Mn)	<u>2015</u> (No.)	<u>2031</u> (No.)	<u>2045</u> (No.)
M+ ⁽³⁾	27	47	47	127	218	218
Exhibition Centre	32	35	40	359	388	445
Performing Arts Facilities ⁽⁴⁾	450	793	888	1 698	3 008	3 386
Total⁽⁵⁾	510	870	970	2 180	3 620	4 050

Notes: (1) Programmes, exhibitions and arts performances all involve economic activities such as design, editorial and publishing, and marketing and advertising. More specific services might be required, depending on the nature of the facility. Exhibitions in M+ will require fabrication of exhibitions, additional security services (apart from those under the contracted out ancillary services in Annex 6), transportation of and insurance for works of art and exhibition materials. On the other hand, arts performances will involve artists and production crew, stage production, and transportation and hotel for artists and production crew. The expenditure on various activities are estimated with reference to past exhibitions/ arts performances under Leisure and Cultural Services Department (LCSD). The scale of these selected past exhibitions and arts performances is expected to be similar to those held in WKCD.

Then ratios of value added to business receipts, estimated from the results of annual surveys of various economic sectors for 2003-2005 conducted by C&SD, are applied to obtain the value added contributions for economic activities except performances by artists and production crew. The value added impact of performances by artists and production crew are estimated with reference to the assumptions advised by LCSD.

- (2) The employment created from economic activities except performances by artists and production crew involved in arts performances are estimated with the ratios of employment per million value added in the relevant sectors rendering such services, as reckoned based on the results of annual surveys of various economic sectors for 2003-2005 conducted by C&SD. The employment impact for artists and production crew are estimated with reference to the assumptions advised by LCSD.
- (3) Including Phase 1 in 2015 and Phases 1 and 2 in 2031. The impact of activities arising from public programmes are also included.
- (4) Including Phase 1 facilities in 2015 and Phases 1 and 2 facilities in 2031. Both hirers' and venue's own programmes and performances are included.
- (5) Figures may not add up to the corresponding total due to rounding.

**Direct value added contribution and employment creation,
by crude sectoral breakdown under PSI Scenario 1A, and total operation economic impact**

Sector	Value added contribution ⁽¹⁾						Employment creation (FTE) ⁽²⁾					
	2015 (\$Mn)	Share (%)	2031 (\$Mn)	Share (%)	2045 (\$Mn)	Share (%)	2015 (No.)	Share (%)	2031 (No.)	Share (%)	2045 (No.)	Share (%)
Core management and operation CACF ⁽³⁾	250	28	280	21	280	20	820	22	980	17	980	16
Artists and production crew ⁽⁴⁾	361	41	642	49	720	51	1 413	38	2 529	45	2 850	47
Design, editorial, publishing, fabrications of exhibitions and stage production	36	4	51	4	55	4	264	7	336	6	372	6
Marketing, advertising and public relation services	49	6	78	6	85	6	235	6	341	6	375	6
Electrical equipment and stage lighting, and sound and technical services	50	6	77	6	77	5	117	3	180	3	180	3
Building maintenance, cleaning and security ⁽⁵⁾	59	7	84	6	84	6	635	17	892	16	899	15
Others (general insurance, hotel and transportation etc.)	69	8	110	8	122	9	262	7	392	7	432	7
Direct impact⁽⁶⁾	880	100	1,320	100	1,420	100	3 740	100	5 650	100	6 080	100
Indirect and induced multiplier effect ⁽⁷⁾	720		1,080		1,170		1 860		2 800		3 030	
Total operation economic impact	1,600		2,400		2,590		5 600		8 450		9 110	

Notes : (1) The expenditure on different economic activities, estimated with reference to past exhibitions/ arts performances in venues under LCSD's management, are applied to the corresponding ratios of value added to business receipts, estimated from the results of annual surveys of various economic sectors for 2003-2005 conducted by C&SD, to obtain the value added contribution. For activities that do not have an exact match of value added ratios in C&SD's statistics, proxies have been taken to obtain crude estimates.

(2) The value added contribution is applied to the corresponding ratios of employment to value added, estimated from the results of annual surveys of various economic sectors for 2003-2005 conducted by C&SD, to obtain the employment creation. For activities that do not have an exact match in C&SD's statistics, proxies have been taken to provide crude estimates. Also, the employment impact for artists and production crew are estimated with reference to the assumptions advised by LCSD.

(3) Including WKCD Authority, M+, Exhibition Centre, Performing Arts Facilities and Open Space. These are same as the figures under core staff in Annex 6.

(4) The manpower involved in both preparation and performing stages are included. The value added contribution in terms of performance compensation and employment creation for artists and production crew are estimated with reference to assumptions advised by LCSD.

(5) Including routine maintenance for M+.

(6) Due to rounding, these figures might not add up to the sum of the figures in Annexes 6 and 7.

(7) A set of income-generation multiplying factors have been applied to the direct value added contribution to arrive at the corresponding indirect and induced value added contributions. The average level of employment per million value added for the whole economy is used in reckoning the indirect and induced employment creation effect.

Attendance to exhibitions and arts performances in the WKCD under PSI Scenario 1A

	<u>Year 2015</u> (’000)	<u>Share in</u> <u>total attendance</u> (%)	<u>Year 2031</u> (’000)	<u>Share in</u> <u>total attendance</u> (%)	<u>Year 2045</u> (’000)	<u>Share in</u> <u>total attendance</u> (%)	<u>Average annual</u> <u>growth rate (2015-2045)</u> (%)
Local residents ⁽¹⁾	4 618	80	5 905	69	6 291	69	1.0
Tourists ⁽¹⁾	1 166	20	2 642	31	2 825	31	3.0
Total	5 784	100	8 547	100	9 116	100	1.5

Notes : (1) In deriving the separate attendance for residents and tourists, it is assumed that the share of resident visits in the attendance of M+ and Exhibition Centre will fall from 75% during their first year of operation by 2% p.a., and stabilise at 60%. For Mega Performance Venue, Great Theatres, Concert Hall, Chamber Music Hall and Xiqu Centre Main Theatre, the share of resident visit will fall from 85% by 1% p.a., and stabilise at 75%. For the other Performing Arts Facilities, the share will fall from 90% by 0.8% p.a. and stabilise at 80%.

Number of visitors to the WKCD under PSI Scenario 1A

	<u>Year 2015</u> (‘000)	<u>Share in total number</u> (%)	<u>Year 2031</u> (‘000)	<u>Share in total number</u> (%)	<u>Year 2045</u> (‘000)	<u>Share in total number</u> (%)	<u>Average annual growth rate (2015-2045)</u> (%)
Local residents ⁽¹⁾	1 652	41	2 624	37	2 796	38	1.8
Tourists attending events in CACF ⁽²⁾	840	21	1 647	23	1 761	24	2.5
Base tourists	746	19	1 235	17	1 320	18	1.9
Induced tourists	93	2	412	6	440	6	5.3
Tourists visiting the WKCD for sight-seeing only ⁽³⁾	1 537	38	2 791	40	2 791	38	2.0
Total	4 028	100	7 062	100	7 348	100	2.0

- Notes :
- (1) In deriving the number of resident visitors to the WKCD, it is assumed that the visits per resident ratio will be 2.25 for all CACF.
 - (2) In deriving the number of tourist visitors to the WKCD, it is assumed that the visits per tourist ratio will be 1.25 for base tourists and 2.5 for induced tourists. Figures might not add up to the corresponding total due to rounding.
 - (3) These represent those tourists that will visit the WKCD but not any exhibitions or arts performances in the CACF. Only a small proportion of these tourists is expected to extend their stay in Hong Kong. Hence, compared with those tourists attending to the events in the CACF, the additional per head spending from these tourists will be much smaller. Their numbers are estimated with reference to the visitor profile in 2006 published by the Hong Kong Tourism Board and the projected number of tourists visiting Hong Kong in Planning Department's the HK2030 study. In 2015, the estimated number of overnight visitors visiting the WKCD (including those attending the events there and those for sight-seeing only) will represent around 10% of the total number of overnight visitors to Hong Kong. By comparison in 2006, the corresponding proportions of all overnight visitors visiting such tourist attractions as the Hong Kong Convention and Exhibition Centre, Clock Tower at Tsim Sha Tsui and Tsim Sha Tsui Waterfront Promenade were 15%, 12% and 9% respectively.

Additional spending by tourists and local residents under PSI Scenario 1A

	<u>2015</u>	<u>2031</u>	<u>2045</u>
(a) Number of base tourists ('000)	746	1 235	1 320
(b) Additional length of stay of base tourists (night) ⁽¹⁾	0.56	0.92	0.92
(c) Average per diem spending of base tourists (\$) ⁽²⁾	1,233	1,166	1,157
(d) Additional spending by base tourists (\$ million) = (a) x (b) x (c)	517	1,320	1,400
(e) Number of induced tourists ('000) ⁽³⁾	93	412	440
(f) Average full length of stay of induced tourists (night) ⁽⁴⁾	3.00	3.00	3.00
(g) Average per diem spending of induced tourists (\$) ⁽⁵⁾	1,280	1,221	1,214
(h) Additional spending on consumption items by induced tourists (\$ million) = (e) x (f) x (g)	358	1,508	1,604
(i) Additional spending on cross-boundary transportation services (provided by local transport companies) by induced tourists (\$ million) ⁽⁶⁾	86	318	340
(j) Additional spending by induced tourists (\$ million) = (h) + (i)	445	1,825	1,943
(k) Number of tourists visiting the WKCD for sight-seeing only ('000)	1 537	2 791	2 791
(l) Per head spending by tourists visting the WKCD for sighting-seeing only (\$) ⁽⁷⁾	140	133	133
(m) Additional spending by sight-seeing tourists (\$ million) = (k) x (l)	211	371	371
(n) Total additional spending by tourists (\$ million) ⁽⁸⁾ = (d) + (j) + (m)	1,173	3,517	3,715
(o) Number of local residents visitng WKCD ('000)	1 652	2 624	2 796
(p) Per head spending by local residents (\$) ⁽⁹⁾	207	228	243
(q) Additional spending by local residents (\$ million) = (o) x (p)	342	598	679

(r)	Overall additional spending (\$ million) = (n) + (q)	1,520	4,110	4,390
------------	---	--------------	--------------	--------------

- Notes :
- (1) It is assumed that in 2015, around 44% of the base tourists will not extend their length of stay in Hong Kong, while the remaining 56% will extend by 1 night. On average, this is equivalent to all base tourists extending their length of stay by 0.56 nights. The share of base tourists that will extend their length of stay will gradually rise to around 92% in 2031 and 2045. On average, this equivalent to all base tourists extending their length of stay of 0.92 nights in 2031 and 2045.
 - (2) Visitors from the Mainland will count for 65% of the base tourists in 2015 and gradually rise to 71% in 2031. Visitors from the rest of the world will count for the remaining 35% in 2015 and 29% in 2031. The average per diem spendings reported here, at \$1,233 in 2015 and \$1,166 in 2031, have already taken into account the difference in per diem spending between Mainland visitors (at \$1,170) and other visitors (at \$1,730) as well as their respective shares in base tourists. The per diem spending is estimated basing on Hong Kong Tourism Board's publications on tourist spending for 2003-2005.
 - (3) Similar to base tourists, visitors from the Mainland will count for 71% of the induced tourists in 2031. Visitors from the rest of the world will count for the remaining 29%.
 - (4) It is expected that 40% of the induced Mainland tourists will have a short length of stay in Hong Kong, at only 1.5 nights, while the remaining 60% will have normal length of stay, at 4.0 nights. For induced visitors from the rest of the world, their length of stay is assumed to be 3.0 nights. The average length of stay reported here has already taken into the difference in length of stay for different group of induced visitors. The lengths of stay for induced Mainland tourists with normal length of stay and induced visitors from the rest of the world are estimated basing on Hong Kong Tourism Board's publications on tourist spending for 2003-2005.
 - (5) Regardless of the length of stay, all induced Mainland tourists will have the same per diem spending as their counterpart base tourists, at \$1,170. Induced visitors from the rest of the world are also assumed to have the same per diem spending as their counterpart base tourists, at \$1,730. The average per diem spending reported here has already taken into the difference in per diem spending for different group of induced visitors as well as their respective shares in induced tourists. The reduction in per diem spending reflects the higher share of Mainland tourists in the induced tourists, which have a lower per diem spending.
 - (6) It is crudely assumed that induced Mainland tourists, regardless of their length of stay, will on average spend \$200 per head on cross-boundary transportations. Induced visitors from the rest of the world will spend much higher, at \$2,200 per head on cross-boundary transportation, as most of them will travel to and leave Hong Kong by air. The per head expenditure of visitors are estimated basing on C&SD's statistics on exports of transportation services as well as the visitor profile published by Hong Kong Tourism Board's over the period 2003-2005.
 - (7) It is crudely assumed that 90% of these tourists will not extend their length of stay in Hong Kong, while the remaining 10% will extend by 1 night. The geographic distribution of these tourists that will lengthen their stay will be similar to the base tourists under footnote (2). On average, each of these tourists will spend around \$130-\$140 for sight-seeing in the WKCD.
 - (8) Tourists' expenditure on ticket/ admission fee, the impact of which has been included in operation economic impact, has been excluded to avoid double-counting.
 - (9) This comprises expenditure on ancillary services including transportation, dining and retail, taking the crowding-out effect into consideration. Nevertheless, residents expenditure on ticket/ admission fee and the subsequent economic impact are not included in the tourist economic impact to avoid double counting, as the economic impact arising from exhibitions and art performances have already been included in operation economic impact. The increase in per head expenditure over time mainly reflects the gradual decrease in assumed crowding-out ratio from 30% to 15%.

Value added contribution of visitor economic impact under PSI Scenario 1A

Source	Estimated ratio of value added to business receipts in the related sector	Projected business receipts			Direct value added contribution ⁽¹⁾			Indirect and induced value added contributions ⁽²⁾			Total value added contribution		
		2015 (\$Mn)	2031 (\$Mn)	2045 (\$Mn)	2015 (\$Mn)	2031 (\$Mn)	2045 (\$Mn)	2015 (\$Mn)	2031 (\$Mn)	2045 (\$Mn)	2015 (\$Mn)	2031 (\$Mn)	2045 (\$Mn)
Additional spending on consumption items by tourists ⁽³⁾													
- Shopping	0.15	596	1,825	1,925	88	271	286	329	1,007	1,062	417	1,278	1,348
- Hotel accommodation	0.58	228	614	648	133	358	378	27	72	76	160	430	454
- Eating out	0.36	148	430	454	53	153	162	51	148	156	104	301	318
- Tours	0.62	12	35	37	7	22	23	1	3	3	8	25	26
- Others	0.52	103	294	310	54	154	162	18	52	55	72	206	217
Additional spending on air passenger services (provided by local airlines) by tourists	0.32	86	318	340	27	100	107	33	122	131	61	222	238
Total additional spending by tourists		1,173	3,517	3,715	362	1,057	1,117	459	1,404	1,483	821	2,462	2,600
Additional spending by local residents ⁽⁴⁾	0.34	342	598	679	116	203	230	123	216	245	240	419	475
Overall additional spending⁽⁵⁾		1,520	4,110	4,390	480	1,260	1,350	580	1,620	1,730	1,060	2,880	3,080

Notes : (1) Estimated with reference to the projected business receipts and the results of the annual surveys on the various economic sectors for 2003-2005 conducted by C&SD.

(2) A set of income-generation multiplying factors have been applied to the direct value added contribution to arrive at the corresponding indirect and induced value added contributions. These multiplying factors are based on an earlier study "Assessment of the Contribution of Tourism to the Hong Kong Economy" conducted by the Economic Analysis Division. They have subsequently been updated and used as inputs for other tourism studies.

(3) The spending pattern is based on the average of all tourists in 2003-2005.

(4) This is the average ratio of value added to business receipts in the retail, restaurant, transport and personal services sectors combined.

(5) Figures may not add up to the corresponding total due to rounding.

Employment creation of visitor economic impact under PSI Scenario 1A

	Estimated ratio of employment per million value added in the related sector ⁽¹⁾	Direct value added contribution			Direct employment creation (FTE) ⁽¹⁾			Indirect and induced value added contributions			Indirect and induced employment creation (FTE) ⁽²⁾			Total employment creation (FTE) ⁽³⁾		
		2015 (\$Mn)	2031 (\$Mn)	2045 (\$Mn)	2015 (No.)	2031 (No.)	2045 (No.)	2015 (\$Mn)	2031 (\$Mn)	2045 (\$Mn)	2015 (No.)	2031 (No.)	2045 (No.)	2015 (No.)	2031 (No.)	2045 (No.)
Additional spending on consumption items by tourists																
- Shopping	9.23	88	271	286	816	2 500	2 637	329	1,007	1,062	850	2 604	2 746	1 665	5 104	5 383
- Hotel accommodation	3.42	133	358	378	455	1 223	1 291	27	72	76	70	187	197	524	1 410	1 488
- Eating out	9.94	53	153	162	525	1 526	1 610	51	148	156	131	382	403	656	1 908	2 013
- Tours ⁽⁴⁾	3.84	7	22	23	28	84	89	1	3	3	2	7	7	30	91	96
- Others ⁽⁴⁾	3.84	54	154	162	207	590	623	18	52	55	48	136	143	254	726	766
Additional spending on air passenger services (provided by local airlines) by tourists	0.95	27	100	107	26	95	102	33	122	131	86	316	338	112	411	440
Additional spending by local residents ⁽⁵⁾	6.98	116	203	230	811	1 418	1 609	123	216	245	319	558	633	1 131	1 976	2 243
Total⁽⁶⁾		480	1,260	1,350	2 870	7 440	7 960	580	1,620	1,730	1 510	4 190	4 470	4 380	11 630	12 430

Notes : (1) Estimated with reference to the projected business receipts and the results of the annual surveys on the various economic sectors for 2003-2005 conducted by C&SD.

(2) The average level of employment per million value added for the whole economy is used in reckoning the indirect and induced employment creation effect.

(3) The level of employment per million value added is assumed to remain unchanged over the projection period. As this ratio could go down given the gradual improvement in productivity over time, the amount of employment creation could thus be over-stated somewhat.

(4) Due to data limitation, the ratio of average employment per million value added for these two sectors is not separable. As such, the ratio is assumed to be the same for these two sectors.

(5) This is the average ratio of value added to employment in the retail, restaurant, transport and personal services sectors combined.

(6) Figures may not add up to the corresponding total due to rounding.

**Total value added contribution and employment creation from
operation and visitor economic impact under PSI Scenario 1A**

<u>Sources</u>	<u>Value added contribution</u>			<u>Employment creation (FTE)</u>		
	<u>2015</u> (\$Mn)	<u>2031</u> (\$Mn)	<u>2045</u> (\$Mn)	<u>2015</u> (No.)	<u>2031</u> (No.)	<u>2045</u> (No.)
Operation economic impact ⁽¹⁾	1,600	2,400	2,590	5 600	8 450	9 110
<i>within which :</i>						
Management and operation of WKCD	370	450	450	1 560	2 030	2 030
Exhibitions and arts performances at WKCD	510	870	970	2 180	3 620	4 050
Indirect and induced multiplier effect	720	1,080	1,170	1 860	2 800	3 030
Visitor economic impact ⁽²⁾	1,060	2,880	3,080	4 380	11 630	12 430
<i>within which :</i>						
Direct effect	480	1,260	1,350	2 870	7 440	7 960
Indirect and induced multiplier effect	580	1,620	1,730	1 510	4 190	4 470
Total	2,660	5,280	5,670	9 980	20 080	21 540

Notes : (1) Refer to Annexes 6 - 8 for details.

(2) Refer to Annexes 12 and 13 for details.

Present value of the stream of value added under PSI Scenario 1A

Year	Operation economic impact	Visitor economic impact	Combined value added contributions from all activities arising from <u>the development of the WKCD</u>	Present value of the combined value added contributions from all activities arising <u>from the development of the WKCD</u> ⁽¹⁾
	(\$Mn)	(\$Mn)	(\$Mn)	(\$Mn)
2014	890	570	1,460	1,067
2015	1,600	1,060	2,660	1,869
2016	1,600	1,360	2,960	2,000
2017	1,730	1,600	3,330	2,163
2018	1,860	1,770	3,630	2,267
2019	1,910	1,890	3,800	2,282
2020	1,910	1,970	3,880	2,241
2021	1,930	2,060	3,990	2,216
2022	1,930	2,140	4,070	2,173
2023	1,930	2,190	4,120	2,115
2024	1,950	2,250	4,200	2,073
2025	1,950	2,280	4,230	2,008
2026	2,220	2,410	4,630	2,113
2027	2,220	2,440	4,660	2,045
2028	2,240	2,480	4,720	1,992
2029	2,290	2,520	4,810	1,952
2030	2,330	2,570	4,900	1,912
2031	2,400	2,880	5,280	1,981
2032	2,420	2,890	5,310	1,915
2033	2,420	2,910	5,330	1,849
2034	2,440	2,920	5,360	1,787
2035	2,440	2,930	5,370	1,722
2036	2,460	2,940	5,400	1,665
2037	2,460	2,960	5,420	1,607
2038	2,460	2,970	5,430	1,548
2039	2,480	2,980	5,460	1,497
2040	2,480	2,990	5,470	1,442
2041	2,490	3,010	5,500	1,394
2042	2,490	3,020	5,510	1,343
2043	2,590	3,080	5,670	1,328
2044	2,590	3,080	5,670	1,277
2045	2,590	3,080	5,670	1,228
2046	2,590	3,080	5,670	1,181
2047	2,590	3,080	5,670	1,136
2048	2,590	3,080	5,670	1,092
2049	2,590	3,080	5,670	1,050
2050	2,590	3,080	5,670	1,010
2051	2,590	3,080	5,670	971
2052	2,590	3,080	5,670	933
2053	2,590	3,080	5,670	897
2054	2,590	3,080	5,670	863
2055	2,590	3,080	5,670	830
2056	2,590	3,080	5,670	798
2057	2,590	3,080	5,670	767
2058	2,590	3,080	5,670	738
2059	2,590	3,080	5,670	709
Total				71,040

Note : (1) A social discount rate of 4% in real terms is used for the discounting.