

# THE TUNG CHUNG CABLE CAR: HOW PARTNERING CAN COMPLEMENT THE VALUE MANAGEMENT PROCESS

Lindsay Pickles & Bryan Clifford  
John Carlilse Partnership (SEA) Limited  
Hong Kong

## ABSTRACT

*The Tung Chung Cable Car will be a unique and brand new tourism experience for local and overseas visitors, capitalizing on the cultural heritage and natural setting of the northern part of Lantau Island. The project comprises a 5.7km cableway linking the two terminals at Tung Chung and Ngong Ping. Next to the Ngong Ping Station will be a themed village leading all the way to the Ngong Ping Plateau, where the world's largest seated outdoor bronze Buddha Statue is located.*

*During the 20-minute scenic journey, travellers will experience spectacular 360 degree panoramic views over the North Lantau Country Park, the South China sea, Hong Kong International Airport, the Tung Chung valley, Ngong Ping Plateau and surrounding terrain and waterways. The trip will culminate in a stunning view of "The Big Buddha" and the Po Lin Monastery as visitors approach Ngong Ping.*

*The project was set up within a strategy of facilitated team work which involved Relationship Management, (partnering) Value Management and Risk Management.*

*The outcomes of the two Value Management Workshops were considerably enhanced by the cooperative working relationships that had been initiated and fostered by the team through the partnering process. This paper describes the project in the context of these two workshops and shows how the team's attitude, generated by the partnering, contributed towards the successful outcome of the Value Management Process.*

## INTRODUCTION

- 1.1 The Tung Chung Cable Car Project comprises a 5.7km cableway linking Tung Chung to Ngong Ping. Next to the Ngong Ping Terminal, a themed village will lead to the Ngong Ping Plateau, where the world's largest seated outdoor bronze Buddha Statue is located.
- 1.2 The Cableway starts at the Tung Chung Terminal, runs across Tung Chung Bay to an Angle Station on Airport Island, where it turns through some 60 degree before returning across Tung Chung Bay. It then runs up the North Lantau Country Park to another angle station near Nei Lak Shan, before finally descending to the Ngong Ping Terminal.
- 1.3 During the 20-minute scenic journey, travellers will experience spectacular 360 degree panoramic views over the North Lantau Country Park, the South China sea, Hong Kong International Airport, the Tung Chung valley, Ngong Ping Plateau and surrounding terrain and waterways. The trip will culminate in a spectacular view of "The Big Buddha" and the Po Lin Monastery as visitors approach Ngong Ping.
- 1.4 The Project is being run by the Mass Transit Railway Corporation Limited (MTRCL) who has appointed Aedas LPT as design consultant supported by Mott Connell, Urbis and Chesterton Petty. The contractor for the Design Build is Maeda Ltd. Other parties include Skyrail ITM, Leitner

GmbH, Mott Connell and John Carlilse Partnership (SEA) (JCP) for partnering.

- 1.5 The project was set up within a strategy of facilitated team work which involved Relationship Management, Value Management and Risk Management. Initially a start-up workshop focused on building cooperative working relationships, mutual objectives and an appreciation of the needs of each party to achieve these objectives. This resulted in the formation of a steering group, whose purpose was to establish a strategy for partnering and to drive progress in developing partnering behaviours and process improvements and provide the team with the skills needed to succeed in this. The Value Management Workshops which followed focused on determining development opportunities and the values and evaluation criteria for short-listing options for the design of both the Tung Chung and the Ngong Ping terminal buildings together with the associated Theme Village.
- 1.6 A further Value Management Workshop was held when it became clear that the business model for the project did not meet the MTRCL's financial parameters, and the capital costs of the project would need to be substantially reduced for the project to be viable.

### **THE START-UP PARTNERING MEETING**

- 2.1 The Start-up partnering workshop was held soon after the whole team had been formed. In fact, the contractor was not yet signed up, and sent along representatives on the assumption that nothing would go amiss with the final signing of the project.
- 2.2 Partnering is about building a true spirit of cooperation within the team and getting improvements in the way we work together for the benefit of all parties. Projects using a similar partnering framework to that have

been adopted for the Cable Car Project have achieved really significant improvements in performance when compared to more traditional approaches.

- 2.3 The objectives of the partnering workshop were to help the team quickly build a productive working relationship with other members of the team and to help you to start to bring about improvements that will result in a significantly better outcome for all concerned than might be achieved by a more traditional approach.
- 2.4 The Tung Chung Cable Car Team learnt the principles of partnering, applying strategies for establishing cooperative relationships. It is necessary for people to think and behave differently if to gain the significant improvements that have been achieved in other partnering programmes. The Team established mutual objectives and strategies for a successful project outcome, understanding the needs of each organisation to achieve these. They identified opportunities for improvement in the way they worked together as a team and jointly agreed actions to address these.

### **THE FIRST VALUE MANAGEMENT WORKSHOP**

- 3.1 The principle objective of the VM study was to consider the functional requirements and establish options for the concept design, which is to be complete for submission of the Section 16 application at the end of April 2003.
- 3.2 To achieve this, the more detailed objectives of the workshop were to:
- Define the development opportunities and facilitate Schematic Layout
  - Agree the required merchandising, theme and Urban Design strategies.

- Agree a clear sense of direction at Ngong Ping as to the approach to be taken
  - Agree assumptions regarding Government Entrustment to enable design to progress
  - Determine key decision dates to achieve the anticipated completion date.
- 3.3 The workshop followed the Value Management Methodology and participants worked through a structured approach of information gathering, analysis, creative thinking, evaluation and development
- 3.4 Key members of the team had participated in a two-day Partnering Workshop, culminating in a Partnering Charter. Many of the same team members came to the VM workshop and were joined by others who came to appreciate the scope of the works, to share views about the project and to participate in resolving the way forward.
- 3.5 Function Analysis is a tool that considers the purpose or function of the project under consideration and sets out the other purposes in a framework of abstraction. The starting point of the analysis is the Questions “Why?” and “How?” when applied to the basic function of each parts of the Cable Car System
- 3.6 This questioning approach served to focus the minds of the participants on the real issues facing the study, what was important and what had to be considered to reach a satisfactory outcome. Functions of the two terminals, the angle and intermediate stations, the emergency/ access trail and the themed village were identified and sorted into important, secondary and unimportant or unnecessary functions. Function Analysis Diagrams for both terminals are shown in Fig 1 and Fig 2.
- 3.7 The objectives of the workshop were largely met with a series of Action Items agreed by all parties. Individuals or small working groups were tasked to carry out the actions identified in this section. The Working groups would recommend the best options to be taken forward for endorsement.
- 3.8 The key feature of this project is that it is more than building a cable car from Tung Chung to Ngong Ping. It is about creating an experience, which includes travelling by cable car to a destination, and one which people will wish to repeat.
- 3.9 This point was stressed by the Operator of the cable car, as well as by the senior management of the MTRC, who joined the workshop to share their understanding with the team members.
- 3.10 One of the outcomes of the workshop was for members to contribute to the development of a vision. “A new icon for Hong Kong.” The accompanying slogan is “The Environmental and Cultural Experience” , or in Chinese, “千里大佛一線牽” and the logo would be “Tree Frog – Sitting Buddha”.
- 3.11 The Mission Statement to achieve this vision was set out as: The creation of a unique and sustainable cultural and environmental experience, producing value for all stakeholders.

## THE SECOND VALUE MANAGEMENT WORKSHOP

- 4.1 On 19th May 2003, following on from the first Value Management Workshop, a second workshop was convened by MTRC in association with their Consultants and Contractors for the Tung Chung Cable Car Project. The design of the project had been progressing satisfactorily up to the production of initial costs, which showed that areas had increased significantly since tender stage and the project viability may be jeopardized
- 4.2 The purpose of the Value Management workshop was to

- consider how to trim some 32% from the capital works aspects without compromising the function and quality of the Tourism experience. The function of the various parts of the cable car system were analysed to determine where unnecessary functions were being carried out and where functions could be performed in a more cost effective manner.
- 4.3 The Tung Chung Terminal was the main area of concern as 55% of the costs were in this building. Three key themes to improving value were considered.
1. Thinking of the terminal simply as a means of accessing the cable car enabled the team to focus on reducing all building areas that did not contribute to this function.
  2. The retail function could be separated from the cable car access function as a separate business, which should stand or fall on its own merits and at this stage was considered to be not worth pursuing.
  3. Cabin storage space requirements could be combined with space for other functions such as the passenger interchange since they would not be required at the same time.
- 4.4 The concept of the Tung Chung retail portion as a separate business opened the way for a low-level terminal structure with low cost foundations. One urgent action resulting from the study was to determine whether raft foundation was a feasible and better value solution over piled foundation.
- 4.5 At Ngong Ping, ideas for the terminal focused on opening up the platform and integrating it with village, rather than having a separate building. The use of water running alongside the walkways to link the different areas and for background noise was supported, but made more cost-effective. As the Theme Village was a main feature of the tourism experience, participants felt more comfortable when this commanded a larger proportion of the expenditure.
- 4.6 A decision by the Airport Authority (AA) not to allow a column within the central reservation paved the way for further considerations on how best to site the Airport Angle Station. Opportunities were identified to reduce the footprint of the Angle Station and move it into the hillside, utilising the form and mass of the hillside to support the station and resist the drive forces. Further development work was to be carried out to see how these possible changes would affect the alignment, the proximity of the cable to other peaks in the area, the tower requirements.
- 4.7 Travel restrictions due to SARS had prevented representatives of Skyrail or Leitner attending the workshop but they were able to contribute ideas by email prior to the event. On the day of the workshop it was decided to develop ideas first with the building team and then to consult Skyrail and Leitner by conference call to confirm or modify their suggestions.
- 4.8 It was also decided that once decisions on foundation type had been made and the form of the terminal structures developed, members of the Project Team would travel to Australia to discuss these face to face with Skyrail and identify further refinements.
- HOW VALUE MANAGEMENT AND PARTNERING COMPLEMENT EACH OTHER**
- 5.1 The VM Studies carried out on the Tung Chung Cable Car Project were improved by the fact that the stakeholders and participants had already started a partnering approach

and their attitude to the identification and resolution of problems reflected this positive approach.

- 5.2 Initially the team members had realized, through the partnering exercises at the initial start-up partnering workshops, the value and importance of working together. In the intervening time, they had learned to work together and reinforce the trust that was a part of the partnering approach.
- 5.3 They had learnt to accept the views of other team members in a positive spirit, that they were going to be good for all parties and for the project, and if the project was a success, then all lives would be enhanced.
- 5.4 VM is about getting people to work as a team. Partnering gives them the tools to do this and improve working relationships;
- 5.5 VM is about getting people to look at the requirements of the job rather than their own requirements. Partnering gives people to tools to manage mutual objectives.
- 5.6 VM is about looking at the function of the issue being considered. The tool of Functional analysis helps identify mutual objectives.
- 5.7 Executive client support is a key requirement of VM. Executives are fully involved in the partnering process.
- 5.8 VM requires Key stakeholders to be involved. Partnering requires them to buy into the process as well.
- 5.9 The structured approach of VM can be used to help parties that are partnering to achieve their goals in a systematic manner.
- 5.10 Good facilitation is a key success factor in the achievement of a satisfactory outcome with both partnering and value management.