



# **Development of Tung Chung New Town in Hong Kong**

H. Wang, W. Wong

*Department of Civil and Structural Engineering,*

*The Hong Kong Polytechnic University,*

*Hung Hom, Kowloon, Hong Kong*

*Email: 95980530r@polyu.edu.hk*

*Email: cewgwong@polyu.edu.hk*

## **Abstract**

Hong Kong's new airport at Chek Lap Kok is scheduled to open on July 6, 1998. At present, construction of all major projects is either at the last stage or in completion. Tung Chung New Town, one of the Airport Core Programme (ACP), has been initially set up for housing 216,000 people by 2006 and providing living area for servicing staff of the new airport. Based on the case study on the development of Tung Chung New Town, this paper illustrates the relationship between transport system and land use development. In the paper, referring to many survey data and research results, the development of Tung Chung New Town is shown to be essential due to the relocation of the Hong Kong Airport. On the other hand, comparing with other new towns in Hong Kong, Tung Chung New Town is provided with better transport system links that minimize the travel time and improve the comfort and accessibility to other parts of the territory. This makes Tung Chung New Town a more attractive new town for people to reside.

## **1 Introduction**

In the past twenty years, the Hong Kong International Airport at Kai Tak has commenced a series of improvement to cater for the continuous growth in passengers and cargo. But due to the limit of capacity and

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facilities, it cannot handle the air travel demand adequately. During the 1980s, possible sites for a new airport in Hong Kong were identified and investigated. Subsequent to several detailed environmental and transportation studies, in October 1989, the Government decided to develop the new airport at Chek Lap Kok suggested by Port and Airport Development Strategy (PADS).

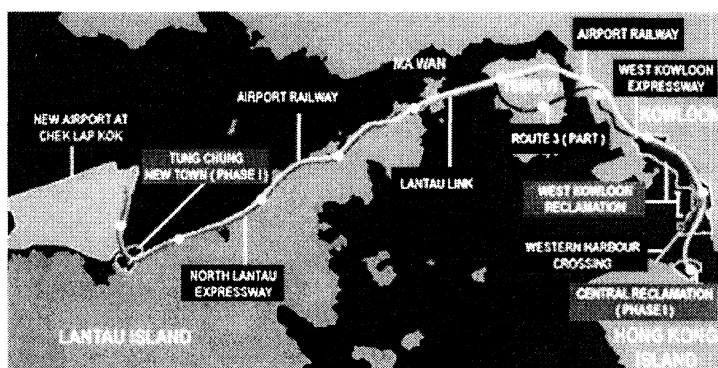


Figure 1: The location of Chek Lap Kok new airport and 10 Airport Core Programmes (ACPs)

Chek Lap Kok locates at the North Lantau which is an island of Hong Kong. New airport covers 1,248 hectare, most of which is formed by reclamation, and is approximately the same size as Hong Kong's Kowloon peninsula. The Construction of new airport is one of the world's largest construction projects. It consists of ten Airport Core Programmes (ACPs) which form the entire land use and transportation system. The new airport is scheduled to open for business on 6 July 1998. Upon opening, it will replace the existing international airport at Kai Tak - one of the world's busiest international airports for both passengers and cargo.

In 1990, the Government commissioned the feasibility study to develop Tung Chung into a new town which will provide a supporting community for the new airport as one of the ACPs. In additional, Tung Chung New Town will also provide land to meet territorial wide land use requirements for housing and industry. In 1996, the Territorial Development Strategy Review identified Tung Chung as Strategic population growth area in the medium and long term. It proposed to increase the population in Tung Chung New Town to 216,000 by 2006 and 320,000 by 2011.

Tung Chung New Town is the ninth new town developed in Hong Kong. To attract people to reside, better transport system links to minimize the travel time and improve the comfort and accessibility should be supplied than the neighbouring territories.

Tuen Mun New Town is a neighbouring and similar territory to Tung Chung New Town. A study has been conducted to analysis the relationship between land use and transport system in Tuen Mun New Town. Based on the results, this paper illustrates the comparison between these two new towns and figures out the future development of Tung Chung New Town.

## 2 Land Use in Tung Chung

The first phase of public housing development in Tung Chung New Town has been ready for occupation and the initial population will be about 20,000 people, comprising up to 15,000 living in public housing and the remainder in private housing. According to the environmental planning, Tung Chung New Town blends in with the rural character of North Lantau.

Further phases of development will be going on and the future center of the town will be the focus of retail, commercial and cultural activities through the provision of shops, offices, hotels, a town hall, and a railway station.

Table 1: Land Use in Tung Chung

Uses	Hectares	Percentage (%)
Commercial	2.59	1.34
Comprehensive Development Area	21.10	10.90
Residential	26.37	13.62
Government/Institution/Community	15.40	7.95
Open Space	27.6	14.25
Other Specified Uses	2.1	1.09
Green Belt	40.38	20.85
Major Road etc.	58.10	30.00
<b>Total Planning Scheme Area</b>	<b>193.65</b>	<b>100</b>



### **Commercial area:**

Two sites located near the main roads are reserved for commercial purposes and another site located near the proposed pier is reserved in the long term for hotel development.

### **Comprehensive Development Area:**

These sites will consist of residential, retail, office and hotel development together with public transport interchange. Adequate parking spaces and local open spaces will also be provided.

### **Government/Institution/Community:**

Wide range of government and community facilities to meet the essential needs of local residents and the wider districts are provided.

## **3 Transport System in Tung Chung**

As Figure 1 shows, Tung Chung New Town and Chek Lap Kok new airport are connected to the other territories of Hong Kong with highways and railways.

### **Railway Link**

Airport Express Line and Domestic Lautau Line of Mass Transit Railway (MTR) provide a high speed and frequency service for the air passengers and local residents. Airport Express Line conveys passengers at a 135 miles velocity. Riding from the new airport to Central takes only 23 minutes.

### **Highway Network**

North Lautau Expressway, 12.5 kilometers long, running along the northern shore of the Lautau Island provides a strategic link between North Lautau and other territories of Hong Kong. It starts from the transportation center of the new airport, via Tung Chung New Town, linking into the Lautau Link (Tsing Ma Bridge and Kap Shui Mun Bridge). And then, via Route 3, the Western Kowloon Expressway, the Western Cross Harbour Tunnel, reaches Central.

Besides these, a ferry pier is built at the north-eastern coast of Chak Lap Kok which services between new airport and Tuen Mun. This route takes only 20 to 30 minutes. Meanwhile, other ferry services are also under consider. The new terminals would be developed within the commercial areas.



## 4 Future Development of Tung Chung

In 1965, the Hong Kong Government commissioned a study to identify further areas for future major urban development. Tuen Mun new town then became the first attempt in Hong Kong to plan a new town as a complete community which was developed upon an almost virgin site as theoretically independent, self-contained. Till now, Tuen Mun covers 2,254 hectare and the population reaches 514,000. However, Tuen Mun is the only new town which does not possess an efficient and large capacity mass transit system and bus service is the major public transport mode.

Before the Lautau Link was set up, Lautau was an isolated island and kept a rural character. Now, due to the construction of the new airport, in geography, Tung Chung and Tuen Mun are very similar. So a study has been conducted to analysis the relationship between land use and transport system in Tuen Mun. With the results, the future development of Tung Chung New Town with much better transport system could be figured out. A total number of 534 people were interviewed during the study.

Table 2: First priority considered while people residing

Factors	Environ- ment	Housing Price	Transport System	Working District	Facility	Total
<b>Persons</b>	202	155	103	71	12	543

From the survey, many people consider the factors such as environment, housing price, transport system and working district while they reside in a new territory.

### 4.1 Non Transport Factors

Environment is the most important factor while people residing. Tuen Mun is the first-generation new town while Tung Chung is the latest developed one. It must be well-planned to keep a good environment to attract people to move in.

As described above, Tung Chung New Town situates at Northern Lautau. The area is very remote and the travelling cost to the city area is high. So the housing price there is comparatively lower than other places in the territories.



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Table 3: Projected employment in Tuen Mun

CTS1	1981	1986	1991
	137,600	180,900	195,200
CTS2	1986	1991	1996
	115,000	157,000	190,000

Table 4: Job opportunities and labor force in Tung Chung

Year	2001-2002	2006	2011
No. of Job	62,000	90,700	140,800
Labor Force	45,400	82,600	165,100

It is reasonably to say that majority of trips generated are the working trips. People always want to obtain job nearby their houses. By doing so, it will help to relieve the burden of travel demand on links between the new town and the city area. In Tuen Mun, the projected employment decreases. Among 534 interviewees, only 107 are working in Tuen Mun. Tung Chung New Town, differs from Tuen Mun, provides nearly a balanced job opportunities for labour force because the new airport produces many employment opportunities.

## 4.2 Transport Factors

### 4.2.1 Distribution Character

Table 5: Distribution Character in Tuen Mun (1998)

Territory	Persons	Percentage(%)
HK West/Central	60	11.05
HK East	10	1.84
HK South	3	0.55
Tsim Sha Tsui	38	7.00
MongKok/Sham Shui Po	56	10.31
Kowloon City	63	11.60
Kowloon West	27	4.97
Kowloon East/Junk Bay	27	4.97
Tsuen Wan/Kwai Chung	119	21.92
Shatin/Ma On Shan	20	3.68
Fanling/Sheung Shui	5	0.92
NWNT	107	19.71
Tung Chung	1	0.18
Airport	3	0.55
Tai Po	4	0.74
<b>Total</b>	<b>543</b>	<b>100.00</b>

Table 6: Distribution Character in Tung Chung (2006)

<b>Territory</b>	<b>Average Daily Flows</b>	<b>Percentage(%)</b>
HK West/Central	46,500	18.50
HK East	14,800	5.9
HK South	4,300	1.7
Tsim Sha Tsui	27,400	10.9
MongKok/Sham Shui Po	31,000	12.3
Kowloon City	7,900	3.1
Kowloon North	13,000	5.2
Kowloon East/Junk Bay	10,300	4.1
Tsuen Wan/Kwai Chung	21,500	8.6
Shatin/Ma On Shan	4,500	1.8
Tai Po	2,300	0.9
Fanling/Sheung Shui	600	0.2
NWNT	25,400	10.1
Tung Chung	16,400	6.5
Airport	20,700	8.2
Other Lautau	4,700	1.9
<b>Total</b>	<b>543</b>	<b>100.00</b>

In Tuen Mun New Town, owing to the inconvenience of the transport system, most trips are made to areas within the neighbouring territories such as Tsuen Wan, Kwai Chung, NWNT etc.. However, in Tung Chung New Town, most of the trips are bound to Central. This indicates that considerable number of people from the city may be attracted to reside in Tung Chung New Town.

#### 4.2.2 Trip Character

Through the survey in Tuen Mun, the first priority factor affecting people choosing transport system is:

Table 7: First priority factor while choosing transport system

<b>Factors</b>	<b>Punctual</b>	<b>Conve- nience</b>	<b>fare</b>	<b>comfort</b>	<b>fast</b>	<b>other</b>	<b>Total</b>
<b>Persons</b>	172	203	62	14	81	11	543

For the selection of transport mode, most people care about the punctuality and convenience more than other factors. The second is the speed (fast) and the fare.

The mass transit system is always the most punctual and convenient public transport mode. Thus from the feedback of the survey conducted



in Tuen Mun, nearly 70% of the people hope that a railway system can be provided to connect the area with the city.

Table 8: Trip time and Fare from Tung Chung New Town

<b>Territory</b>	<b>Trip time(mins)</b>	<b>Fare(HK\$)</b>
HK West/Central	25-30	20-25
HK East	50-60	27-30
HK South	45-60	24-28
Tsim Sha Tsui	35-45	15-20
MongKok/Sham Shui Po	25-35	15-20
Kowloon City	35-45	15-20
Kowloon West	20-30	15-18
Kowloon East/Junk Bay	45-60	20-25
Tsuen Wan/Kwai Chung	20-30	12-18
Shatin/Ma On Shan	45-60	18-20
Tai Po	60-75	20-22
Fanling/Sheung Shui	70-80	20-25
NWNT	75-90	13-18

Table 9: Trip time and Fare from Tuen Mun

<b>Territory</b>	<b>Trip time(mins)</b>	<b>Fare(HK\$)</b>
HK West/Central	45-60	20-24
HK East	90-105	18-20
HK South	60-80	24-28
Tsim Sha Tsui	60-75	12-15
MongKok/Sham Shui Po	60-75	7-12
Kowloon City	75-90	9-13
Kowloon West	45-60	8-12
Kowloon East/Junk Bay	90-105	14-20
Tsuen Wan/Kwai Chung	35-50	5-7
Shatin/Ma On Shan	60-75	10-13
Tai Po	75-90	11-14
Fanling/Sheung Shui	60-80	10-13
NWNT	5-30	4-6
Island e.g. Lantau	50-60	15-17

The average trip time from Tung Chung to other places in the territories is approximately 25-60 minutes and the fares are within HK\$15-25. While the average trip time from Tuen Mun is approximately 45-75 minutes and fares are within HK\$7-20.

According to the above results, the transport system in Tung Chung New Town is much better than in Tuen Mun. Despite a little bit higher in





travel cost, the trip time is much shorter. In the survey, only 11% of passengers indicate that fares are their first priority affecting their choice of transport mode. While most of them consider that a fast and efficient transport mode should be the first choice of selection.

## 5 Conclusion and Recommendation

Tung Chung New Town is one of the ACPs of the new airport at Chek Lap Kok. Supplied with efficient transport system including Airport Express Line, several expressways and main roads, Tung Chung New Town has a great priority for attracting people to reside in. According to the Territorial Development Strategy Review, it will become the strategic major population growth area in the medium and long term.

The transport system development and supply is very important during the land use development specially in the new towns. An efficient and convenient transport system may attract more residents and industries for locating which may greatly encourage the economic growth in the territory.

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