MVA IN CHINA

MVA in China

MVA has been involved in transport projects in China for many years, and currently maintains permanent regional offices in Beijing and Shenzhen. The company has carried out transportation and development projects in Beijing, Guangzhou, Shanghai, Shenyang, Shenzhen, Suzhou, Tianjin, Wuhan and other cities in the Pearl River Delta.

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- Guangzhou Urban Transport Study (World Bank)
- Beijing Transport Planning Study (Department of International Development, British Government)
- Beijing Urban Transport Study (Asian Development Bank)
- Beijing Central Business District Master Plan Study (Beijing Chaoyang District Government)
- Railway Development Study (Hong Kong SAR Government)
- Shanghai Urban Transport Policy Study
- Shenyang Sustainable Urban Planning Project

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- Guangzhou City Centre Traffic Study (Guangzhou Municipal Government)
- Dalian UTC System Technical Support (Department of International Development (former ODA), British Government)
- Tianjin Traffic Management Study

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SYSTRA MVA

Master Planning and Land-use Development

HUILONGGUAN, QINGHE AND TIANTONGYUAN COMPREHENSIVE TRANSPORT PLANNING IN BEIJING

China Map

During recent years, Beijing's urban area has grown rapidly. Areas which were rural areas in the past are now being developed. Huilongguan and Tiantongyuan are typical examples, residents in these areas have found that the existing transport system cannot handle the growing traffic demand and the situation will probably worsen in the future. The Local

Authorities also recognised the problem and want to solve the imbalance between the transport system and urban development.

MVA was appointed by the Beijing Transportation Research Center(TRC) to carry out a comprehensive transport

study of the above areas in 2003, and to recommend an area transport policy and infrastructure development strategy for a 6-year period (2004 -2010).This study also included close cooperation with Beijing TRC and the Beijing General Municipal Engineering Design & Research Institute.

The study included :

- Understanding existing land use and transport situation
- Review of current transport planning (highway, PT, railway)
- Surveys of existing traffic
- Transport model develoment
- Enhancement of road network
- Grade-separated intersection options
- Case studies for main roads and junctions
- Public transport schemes (BRT, corridors, depot, interchange, feeder bus)
- Feedback/advice to land use and population growth
- Park and Ride schemes
- Stages of infrastructure development
- Pedestrian and cyclist facilities
- Evaluation of options

Huilongguan, Qinghe and Tiantongyuan Comprehensive Transport Planning in Beijing

Study duration (MVA)	:	Sept. 2003 - May 2004
Site Area	:	130 sq.km
Population	:	1,100,000 (2010)

Note :
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SYSTRA MVA

Transport Planning

HUILONGGUAN, QINGHE AND TIANTONGYUAN COMPREHENSIVE TRANSPORT PLANNING IN BEIJING

In Jan. 2005, the State Council approved the "Beijing urban master plan (2004-2020)" proposed by the Beijing Municipality Government. To implement this master plan, the Beijing planning committee & the Beijing Municipal Institute of City Planning & Design (BMICPD) are developing detailed planning for Beijing urban area and the satellite towns.

In order to facilitate this planning work, a comprehensive transport forecasting model has to be developed.

BMICPD therefore commissioned MVA to provide technical assistance on model development.
The main task for MVA is to supervise and guide BMICPD to develop the transport and put into application for scheme evaluation.

The tasks included :

- Planning data assumption
- Survey and data collection
- Network development
- Transport model development
- Evaluation

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SYSTRA MVA

EASTERN DEVELOPMENT BELT (EDB) PROJECT IN BEIJING

In 2004, an updated Master Plan of Beijing was being compiled. For the Urban Spatial Strategy of Beijing, "Two Axils Two Belts Multi-centers" was proposed for the development of the updated Master Plan. In order to support this Urban Spatial Strategy, the Beijing municipal transport commission conducted a range of Traffic Planning Studies, of which one was the traffic study of the Eastern Development Belt (EDB). The EDB is a major urban/rural region of the Beijing Municipality comprising approximately 10,000 square kilometers stretching from Mi Yun and Huai Rou in the north to Yong Le in the south.

Purpose of study :

- Form of urban development, how different functional sub-section integrates with transport system.
- Establish the traffic development strategy to encourage the Eastern Development Belt in Beijing.
- Propose the main frame of traffic network and its infrastructure to form the foundation of the sustainable development.

MVA Task :

1.Review the relevant

international and domestic experience related to the existing and proposed plans of Beijing.

2.Propose the transport development strategy

- Relationship between land-use and transport infrastructure development.
- Traffic development modal strategy, and its corresponding policy and measurement.

3.Develop the comprehensive transport model and prepare a traffic forecast

- Survey of traffic demand and supply.
- Four-stage model for the full municipality.
- Model application and assignment for the Eastern Development Belt.
- Traffic forecast

4.Plan for the infrastructure of the transport system and network

- Model application and assignment for the Eastern Development Belt.
- The network of road, public transport and railway.
- Interchange Hubs and Nodes
- Network performances
- Freight transport planning
- Scheme evaluation

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Master Planning and Land-use Development

BEIJING GREATER CBD TRANSPORT PLANNING STUDY

MVA completed the Beijing CBD Transport Planning Study in 2002 and recommended further studies and designs. Local authorities and the Beijing CBD Commission were concerned about the traffic situation at the CBD surrounding area, which could directly affect the traffic within the CBD area.

In 2004, the Beijing CBD Commission asked MVA to do another transport planning study. The study area of this study was much larger than the original CBD area (4 sq. km), at 82 sq. km. The main objective of this study was to improve the traffic situation both in the CBD and the surrounding areas.
In this study, MVA produced a number of surveys for trip-rate, traffic flow, speed and model split to find out the key problems. We provided sets of schemes to relieve the traffic pressure and evaluate the options by the transport simulation model analysis.
For special studies on the layout of interchanges or road alignment, we co-operated with local institutes, experienced in the field of engineering design.

This study also had sub-reports carried out by various local institutes. These sub-reports included aspects such as ITS, traffic circulation and PT network planning in the CBD area. MVA 's report covered all the important findings in their respective studies.

The study included :

- Understanding of existing land use and transport situation
- Review of current transport planning (highway, PT, railway)
- Surveys for trip-rate, traffic flow, speed and model split
- Transport model development
- Enhancement of road networks
- Grade-separated interchange options
- Access options for main railway stations
- Case studies for main roads and junctions
- Public transport schemes (corridors, depot, interchange, feeder bus)
- Feedback/advice to land use and population growth
- Stages of infrastructure development
- Pedestrian and cyclist facilities (corridors)
- Traffic management measures Evaluation of options

Beijing Greater CBD Transport Planning Study

Site Area : 82 sqkm

Population : 1,470,000 (2010)

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SYSTRA MVA

BEIJING CBD TRANSPORT PLANNING STUDY

China Map

Beijing Central Business District was defined and planned in the Beijing Urban Master Plan in the early 1990s, and gradually constructed in the eastern part of Beijing, with a total area of 4 square kilometers.

There are more than 3 million square meters floor area of existing business building facilities, including China World Trade Center, Motorola Plaza, the Kerry Center, Hewlett Packard Plaza, Jianguo Hotel. The area accommodates hundreds of multinational companies and financial agencies, such as Motorola, Hewlett Packard, Ford, Samsung, UBS AG.

The total planned construction floor area of Beijing CBD is some 10 million square meters, of which 50% is office buildings, 25% is apartments and the remainder 25% is commercial, service, cultural and entertainment facilities.

To construct a first-class international CBD in Beijing, the Beijing CBD Commission invited MVA as an International consultant to complete the CBD transport planning study (up to 2010), working with the Beijing Municipal Institute of City Planning & Design.

The most important conclusions of this study are that. Public Transport (including rail) must be improved with a high targeted modal share, and control the GFA strictly. At the same time, more efficient road and public transport network needs to be provided in the short term to meet the traffic demand, particularly to solve the capacity problem of access to/from the CBD area.

The study included :

- Understanding of existing land use and transport situation
- Review of current transport planning (highway, PT, railway)
- Traffic surveys for model split and others
- Transport model development
- Enhancement of road network
- Grade separated interchange options
- Options for main metro/railway alignment and stations
- Case studies for main roads and junctions
- Public transport schemes (proportion target, corridors, depot, interchange, feeder bus)
- Feedback/advice to land use and population growth
- Stages of infrastructure development
- Pedestrian and cyclist facilities (corridors)
- Traffic management measures
- Connections among the underground parking lots
- Evaluation of options

Beijing CBD Transport Planning Study

Site Area	:	4 sqkm
GFA	:	10 million sqm

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SYSTRA MVA

HUJIALOU PROJECT IN BEIJING

Hunjialou is in the Chaoyang district, to the eastern side of the Beijing urban center. It is regarded as the main North entrance of the CBD, and is about 2.5km distance from Chaoyang Gate (one of Beijing's old city gates). The area is composed of Hujialou northern Street unit, South unit, North unit, and West unit.

Land use of the Hujialou region has been mainly occupied by residential buildings, which were built in the 1950s and 1960s. Currently, it is planned to be reconstructed into a complex community combined of commercial and residential development.

MVA has been commissioned on a few occasions to conduct the traffic impact evaluations for the different parts of Hujialou's reconstruction. MVA also provided the corresponding proposals on the improvement of traffic facility and traffic circulation.

MVA Responsibility :

- Propose the future external road network and traffic circulation for the project region.
- Propose all entrance number and position, and how they link up with the external road network
- Forecast the trip generation and attraction for the project coverage during its planning years.
- Forecast the traffic flow and the V/C for the external road network.
- Carry out traffic impact evaluation to the external road network in the planning years.
- Based on the original planned traffic facility, prepare a proposal for the traffic facility within the project, mainly including road, public traffic, parking and the integration with mass transit entrances.

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SYSTRA MVA

Master Planning and Land-use Development

BEIJING METRO LINE 4 PATRONAGE AND REVENUE FORECAST

China Map

Beijing has had major economic growth since the mid 1980s. By the 1990's, the highly concentrated commercial development in the central area of Beijing created pressure on the urban transportation network. At the same time, because of the natural population growth and the migration of village population to urban areas, the increase rate of Beijing urban population was around 3% per annum.

Existing public transport systems in Beijing (metro & bus), including taxi & private bus, serve about 40% of all daily trips. At present only 4% of trips use the metro. To alleviate the traffic congestion, government wants to increase the share for the metro.

Therefore, the expansion of the existing metro system by at least three more lines in the new future was proposed. MVA was commissioned by Hong Kong MTRCL & Beijing Infrastructure Investment Company Limited, in late 2003, to carry out a patronage and revenue forecast study for Beijing metro line 4.

MVA Responsibility :

- Compile and review available data
- Compile transport network inventory
- Review and refine model parameter
- Define base case forecasting scenario
- Refine the transportation model
- Prepare basic case forecast
- Prepare sensitive test, and
- Prepare report

Beijing Metro Line 4 Project

Length	:	28.65 km
Number of Stations	:	24
Completion Time	:	End of 2007

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MVA's tasks included:

- Compile and review available data
- Compile transport network inventory
- Review and refine model parameter
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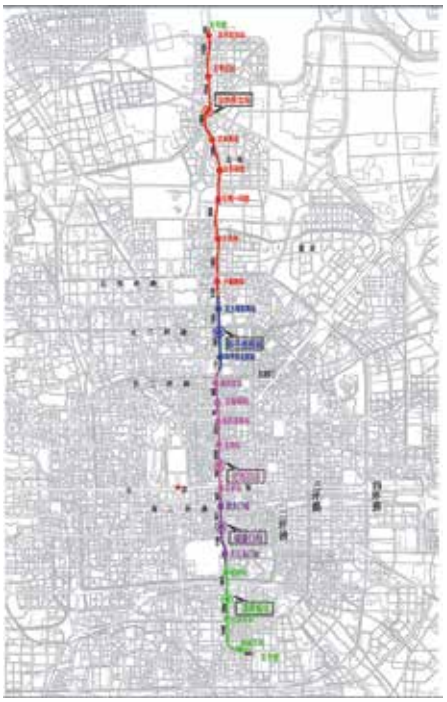

Beijing Metro Line 5 Project

Length	:	27.6 km
Number of Stations	:	22
Completion Time	:	End of June 2007

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SYSTRA MVA

GUANGZHOU - SHENZHEN - HONG KONG EXPRESS RAIL LINK (GZ-SZ-HK XRL)

The HKSAR Government announced the Railway Development Strategy 2000 (RDS2000) in May 2000, which identified a Regional Express Link (REL) as a new rail line to provide express train services between the urban area and the boundary providing the potential to connect to fast inter-city trains in Guangdong Province and beyond. Three preliminary ERL alignments within HKSAR were developed linking the existing Hunghom Station to the likely boundary crossing points at Shekou, Huanggang or Liantang. Hunghom Station was planned as a Mass Transportation Centre (MTC) for interchanging with other railway lines and modes of transport within the HKSAR.

The study objective was to provide expert technical advice on High Speed Rail (HSR) engineering and specific topical studies drawing Systra's extensive international experience of very fast train design, construction and operation. Key aspects were:

To review the previous Study Reports and further develop the REL sections of the ERL, in particular to assess key feasibility, design and safety issues of HSR operation in very long tunnels through the HKSAR; and

To carry out topical studies on specific issues of the ERL, in particular, the REL to establish further details of the REL and to enable more detailed planning to commence. These topical studies include a comparison of alternative wheel-on-rail and magnetic levitation based technologies.

Systra were responsible for the following work tasks:

Engineering Review

The feasibility construction and operation of an HSR line through the HKSAR in tunnel;

Facilitating the proposed service criteria;

Ensuring safe and reliable operation which meet international safety standards;

Achievable construction programme; and

Train service operations, station layouts, track layouts, crossovers/ sidings, emergency operations, passenger handling/customs/ immigration.

Various Topical Studies

1. Tunnel Configuration
2. Use of New Technology

Development of high-speed wheel-on-rail systems in the World including:

French TGV network

Germany ICE network

Spanish AVE network

Italian High-Speed network

North-European TGV network in UK, Netherlands and Belgium

High-speed line in Belgium

High-speed project in Netherlands : Amsterdam-Rotterdam-Belgium

Trans-European High-speed network (TEN)

Japanese Shinkansen network

Taiwan's Taipei Kaohsiung project

Korea's Seoul Pusan project.

Development of Maglev Technology in the World including :

The German Transrapid Maglev

The Japanese Superconducting Maglev

3. Traffic control and signaling
4. Assessment of Terminal Station Options at Hunghom and West Kowloon Station Concepts
5. Interchange Stations in the Mainland Huanggang and Guangzhou East
6. Maintenance Depot
7. Traction Power System
8. Telecommunication System
9. Time Frame for Implementation
10. Cost Estimates and Institutional Arrangement for Implementation

Authority : MTR Corporation

Client : The Railway Development Office of Highways Department

Contract Value : HK 0.7million

Contract Period : 2003 - 2004

Services to Client : Technical and Institutional Study on XRL

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SYSTRA MVA

HOTEL BRANDING AND SUCCESS FACTORS

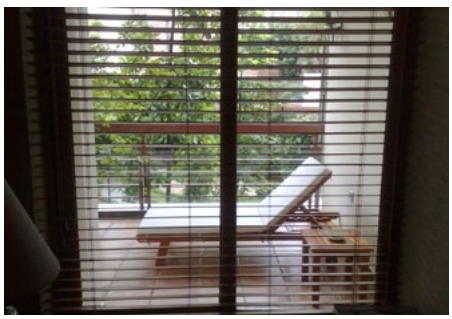
MVA was appointed by a major Guangzhou real estate developer, who intends develop a series of luxury hotels and resorts in China that would offer a distinctive brand positioning in the luxurious and comfortable holiday making segment.

MVA was tasked with advising on branding and product / service features of renowned international hotel and resort brands such as Aman Resorts, Banyan Tree, and Four Seasons.

- Prepare and present relevant branding case studies detailing the background and the success factors, as well as the salient features for successful brands
- Define a set of branding elements customised to the client's visions and missions of the hotel project
- Fine tune the key branding elements
- Arrive at a list of recommended and viable brand/ product features that can be developed as the goals for the Client to strive to achieve

This study would be the first stage of a consulting project that will feed into subsequent stages aiming to formulate a detailed marketing/ branding strategy and help build the brand of the Client via internal and external communications with the Client's stakeholders, including the management hierarchies.

In additional to mapping out the aforementioned brand features, at the close of the Stage 1 assignment, it is envisioned that MVA will also propose ideas of brand trademarks/ logos, and tagline / catch phrase for the Client senior management consideration.



A series of workshops, meetings and presentations will be conducted for the Client in client-designated venues / locations in Mainland China. MVA will also develop all preparatory and technical works which will be conducted in Hong Kong from MVA's Asia Head Office.

Project Information

Location : At the centre of Bai Yun district of suburban Guangzhou, adjacent to South Lake Resort area.

Land size: 6.5 million square metres
Facilities : 443 units, with high ceiling (3.2 metres); over 200 indigenous trees in surrounding forests.

Clubhouse:
Cigar & Wine Club Café
Fine Dining Restaurants
SPA Beauty Saloon
Mini Cinema
Fitness Centre
Tennis Court
Indoor & Outdoor Swimming Pool
Golf Green
Basketball Court

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SYSTRA MVA

Car Park Design and Management

CAR PARKING DEMAND STUDY, LAYOUT PLAN AND CIRCULATION SYSTEM DESIGN

Introduction

With the rapid economic development, historic spanning development is realized for auto industry in terms of annual production increases sharply and ownership of car in the city increases greatly. The coming of car era brings big challenge for parking arrangement. How to park rapidly and conveniently and how to facilitate driver finding the parking space without turning repeatedly is the foremost issue nowadays.

MVA is able to provide a completed set of layout plan design of car park to the developer, architect, planner and engineer, which includes car parking demand calculation and car par circulation design, etc.

MVA has rich experience from the conceptual design, scheme design to implementation, service covers:

- Car parking and Servicing (Goods, Coach, Pick up/ Drop off Transport demand study
- Car park layout plan and circulation design
- Car park entrance/exit and gradient design
- Car park swept path analysis
- Car park loading/unloading area and layout design

MVA has involved in many major car park design projects in China and in Asia, including:

Hong Kong

- Car park design for MegaBox, Kowloon Bay
- Car park design for Belcher Gardens
- Car park study of underground shopping mall in Tsim Sha Tsui
- Parking demand study of Convention and Exhibition Center
- Car park reconstruction study of Convention and Exhibition Center
- Car park and loading/unloading demand study of Regal Hong Kong Hotel

China

- Joy City car park study, Beijing
- New Times Square and China Construction
- Tower car park design and demand study, Beijing
- China Place car park design and demand study, Beijing
- Greentown Yinghang Plaza car park study,Tongzhou, Beijing
- Joy city car park demand study,Tianjin
- Hang Lung Plaza car park study, Tianjin Citic Plaza car park study, Hedong, Tianjin
- CRC MixC car park demand study, Shenzhen
- Car park design for Qianhaiwan logistic park, Shekou, Shenzhen
- Shangri-La Hotel and Office Development car park study in Futian district, Shenzhen
- Parking guidance study in Futian CBD, Shenzhen
- Car park design of Xiamen Cruise Terminal, Fuzhou
- CRC MixC car park design,Chengdu
- CRC MixC car park design,Zhengzhou
- CRC MixC car park design,Shenyang
- CRC MixC car park design,Qingdao
- Twin Tower car park study, Suzhou
- Wynn Resorts and casino car park study,Macau
- Hotel Lisboa and casino car park study,Macau
- Galaxy City Club Development at Cotai,Macau
- MGM Grand car park study,Macau

Middle East

- Qatar Doha Marwan Ranch College Traffic Circulation and Car Park Strategy Study
- Saudi Arabia Jeddah Riviera Shopping Mall Car Park Study
- Arab Emirates Burj Dubai Shopping Mall Car Park Study

Thailand

- Bangkok Exchange Building Car Park Design
- Bangkok Sukhothai Hotel Car Park Study

Singapore

- Suntec City Car Park Study
- Coastal Bay Resort Club Car Park Design
- Sentosa Resort Hotel Car Park Study

Philippine

- Manila West Francis Tower Car Park Transport Study
- Manila Bay Bell Bay City Commerce/ Hotel Car Park Study
- Car Park Study of The Landmark of Domingos Bonifacio

Others

- Indonesia Jakatra Almaty Transportation Center Car Park Study
- India Delhi Noida Theme Park Car Park Study

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SYSTRA MVA

Shopping Mall

Introduction

With the rapid growth of economy, large shopping mall has become a new fashion in the country, currently, there are more than 200 shopping malls in the China, with a total area of 30 million square meters. How to stand out from a number of shopping malls as a leading market sector? The developer not only needs an architect who has a insight into the marketplace, but also needs the best design of passenger flow and vehicle flow circulation for the shopping mall, thus allowing customers to use the shopping mall more conveniently, more comfortable and more effectively. As a state-of-art traffic designer, MVA is able to provide an integral and efficient layout plan of the shopping mall to the developers, architects, planners and engineers, including passenger flow estimation, design and evaluation of boarding/alighting facility of private vehicle and taxi, queuing arrangement of taxi and loading/unloading facility of goods vehicle for the shopping mall.

MVA has extensive experience in the design of shopping mall from conceptual design, scheme design to detailed design. Service covers:

- Customer flow forecasting
- Customer flow circulation design
- Vertical traffic study (lift, escalator)
- Layout plan design
- Boarding/alighting area design
- Loading/unloading area design
- Goods strategy study (unloading platform, cargo lift)
- Car parking design (circulation, guidance)
- Goods vehicle swept path analysis

MVA has involved in lots of design projects of large shopping malls in the country and in Asia, which include:

Hong Kong

- The Pacific Mall, Admiralty, Hong Kong
- IFC, Central Station, Hong Kong
- Harbour City, Tsim Sha Tsui, Hong Kong
- Elements, Kowloon Station, Hong Kong
- Festival Walk, Kowloon Tong, Hong Kong
- Maritime Square, Tsing Yi ,Hong Kong

Mainland China

- Sanlitun Mall, Beijing
- COFCO Joy City , Beijing
- Shin Kong Place, China Central Place, Beijing
- Hang Lung Plaza, Heping District, Tianjin
- COFCO Joy City , Tianjin
- CRC Mix City, Shenzhen
- TaiKoo Hui, Guangzhou
- CTF Plaza, Guangzhou
- New World Center, Shenyang
- Royal City Hang Lung Plaza, Zhongjie Road, Shenyang
- Shenyang Municipal Hang Lung Plaza
- CRC, Mix City, Shenyang
- Hang Lung Plaza, Jinnan
- CRC Mix City Phase 2, Hangzhou
- CRC 24-City, Chongqing
- Raffles Plaza, Chengdu
- CRC Mix City Phase 2, Chengdu
- Kerry City, Pudong District, Shanghai
- Kerry Center, Jing'an District, Shanghai

Overseas Projects

- Mall of Arabia, Dubai
- Jeddah Riveria Mall, Sudi Arabia
- Mega Bangna Shopping Center, Bangkok
- Central World, Bangkok

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