

# Curriculum Vitae

## **Ir. Dr. Tai Tuck Leong** **Consultant Transportation Planner**

Year of birth : 1955  
Nationality : Malaysian

### **Education**

B.Sc. in Civil Engineering with 1<sup>st</sup> Class Honours,  
Queen Mary College, University of London, UK (1978)

Ph.D. in Civil Engineering (Transportation),  
University of Canterbury, New Zealand (1987)

### **Language And Degree Of Proficiency**

	<u>Spoken</u>	<u>Written</u>
English	Good	Good
Bahasa Malaysia	Fair	Fair
Mandarin	Good	Fair

### **Membership Of Professional Societies**

#### ***Malaysia***

Member of the Board of Engineers, Malaysia (P.Eng)  
Member of the Institution of Engineers Malaysia (MIEM)  
Member of the Institution of Highway and Transportation (MIHT)  
Member of the Chartered Institute of Transport (MCIT)

#### ***New Zealand***

Member of Institution of Professional Engineers, New Zealand (MIPENZ)  
Registered Engineer, New Zealand

### **Specialised Interest**

#### ***Traffic/Transport Modelling***

- *United Kingdom Program*  
SATURN, (Simulation and Assignment of Traffic in Urban Road Networks)  
TRIPS, (Transportation Improvement Planning System)
- *New Zealand Program*  
TRACKS
- *Australian Program*  
TRARR, (Traffic Engineering System Software)  
SIDRA, (Signalised Intersection Simulation Software)

**Specialised Interest** (Cont.)

***Traffic Engineering***

Intersection Performance

***Accident Study***

System Wide Accident Analysis

***Risk/Uncertainty Analysis***

Monte Carlo Simulations

***Project Evaluation***

Economic Evaluation of Transportation Projects

***Public Transport***

- Bus Study
- Rail-Based Study

***Privatisation Study***

Highway Privatisation Studies

**Employment Record And Experience**

**June 1994 To Date**

**Managing Director**

Perunding Trafik Klasik Sdn Bhd, Malaysia  
(Transportation Planning And Traffic Management Consultants)

*Project Director for Traffic Study in Public Transport, Terminal & Stadium*

- Traffic Study for the relocation and redevelopment of the RaceCourse Stadium in Penang.  
(Client: *Taman Equine Sdn. Bhd.*)
- Traffic Dispersal Study for KL Sentral Station  
(Client: *Ranhill Bersekutu Sdn. Bhd.*)
- Privatisation of Ipoh Regional Bus & Taxi Terminal: Design and Study, Jalan Tasek, Ipoh  
(Client: *Northvale Sdn Bhd*)
- Bandar Baru Nilai Public Transport Study And Bus & Taxi Terminal Design  
(Client: *Bandar Baru Nilai Development Sdn Bhd*)
- Sibu City Bus & Taxi Terminal Redevelopment  
(Client: *Sibu Municipal Council, Sarawak*)
- Traffic Study for the Privatisation of Public Transport Interchange at Bandar Tasek Selatan, KL (Servicing the LRT, KTM Kommuter & the ERL)  
(Client: *ASM Development Sdn Bhd*)

*Project Leader In The Following Studies*

- Study on Integrated Transport Information Systems in Klang Valley  
(Client: *Japan International Co-operation Agency*)
- Public Transport Masterplan Study for Kota Kinabalu, Sandakan & Tawau  
(Client: *Konsultant Kumpulan (MT) Sdn Bhd*)
- Sustainable Urban Development Study for Sibu, Sarawak  
(Client: *Majlis Perbandaran Sibu*)

*Project Director And Principal Transport Consultant For The Following Studies: -*

- Multimedia Super Corridor (MSC) Physical Development Plan Study  
(Client: *Town & Country Planning Department, Malaysia*)
- Proposed Klang Integrated Transportation System Study  
(Client: *Hume Industries (Malaysia) Berhad*)
- Privatisation Study of the Dedicated Highway from Kuala Lumpur to Putrajaya and KLIA  
(Client: *Konsortium Lapangan Terjaya Sdn Bhd*)
- Privatisation of Guilin-Liang Airport Road Traffic Study  
(Client: *Amdex Corporation Sdn Bhd*)
- Privatisation of New Pantai Highway Traffic Study  
(Client: *Maxtro Engineering Sdn Bhd*)
- Privatisation of KL North – East Highway Traffic Study  
(Client: *Konsortium Lebuhraya Ekspres Kuala Lumpur Sdn Bhd (KEKAL)*)
- Privatisation of Mandalay – Yangon Highway, Myanmar  
(Client: *Masteron Sdn Bhd*)
- Privatisation of Gombak Elevated Highway  
(Client: *ACPI Sdn Bhd*)
- Privatisation on Upgrading & Improving of Jalan Cheras – Loke Yew – Kuching Corridor  
(Client: *Metacorp Bhd.*)
- Privatisation of Behrang – Lumut Highway  
(Client: *Gopeng Bhd.*)
- MEC City Traffic Masterplan Study  
(Client: *MEC City Sdn Bhd*)
- Kota Kinabalu Macro Traffic Study  
(Client: *Pakar Development Sdn Bhd*)
- Pudu Jail Redevelopment Traffic Study  
(Client: *UDA*)
- Sg. Sedu Development Traffic Masterplan Study  
(Client: *Negara Properties Bhd.*)
- Public Transport Masterplan For Kota Kinabalu, Sandakan and Tawau in Sabah  
(Client: *Jabatan Pembangunan Negeri, Sabah*)
- Johor State New Administrative Centre Study  
(Client: *Kinta Kellas Bhd*)
- Privatisation of Nellore Bypass, India  
(Client: *HSS Integrated Sdn Bhd*)
- Bandar Utama Traffic Study  
(Client: *Bandar Utama Development Sdn Bhd*)
- Bukit Jalil Development Traffic Study  
(Client: *Ho Hup Construction Bhd.*)
- Islamic University Medical Campus Traffic Study, Kuantan  
(Client: *International Islamic University, Malaysia*)
- Bukit Tinggi Hill Resort Traffic Study  
(Client: *Berjaya Leisure Bhd*)
- Bukit Lagong Transportation Masterplan Study  
(Client: *Kumpulan Guthrie Berhad*)
- Gebeng Industrial Estate Masterplan Study  
(Client: *Unit Perancang Ekonomi Negeri (UPEN), Pahang*)
- Pahang Inland Port Feasibility Study  
(Client: *Economic Planning Unit, Pahang*)
- Sibu's CBD Traffic Study  
(Client: *Sibu Municipal Council, Sarawak*)

*Project Director And Principal Transport Consultant For The Following Studies: - (Cont.)*

- Sibul's CBD Traffic Study  
(Client: Sibul Municipal Council, Sarawak)
- Nilai Northern Interchange Study  
(Client: N.S. Township Development Sdn Bhd)
- Miri Resort City Traffic Study  
(Client: Samling Corporation Sdn Bhd)
- Nilai Southern Interchange Study  
(Client: N.S Township Development Sdn Bhd)
- Kelana Jaya Sub-Regional Transport Modelling Study  
(Client: Saujana Pertiwi Sdn Bhd)
- Transport Masterplan Study for University Malaya  
(Client: Arkitek MAA Sdn Bhd)

*Technical Advisor cum Traffic Engineer for the Following Project:*

- Tawau New Airport Project  
(Client: The Pembangunan Sulaiman – Zelleco JV Sdn. Bhd.)

*Senior Transportation Planner For The Following Studies:*

- National Trip Generation Study of Malaysia  
(Client: Ministry of Transport, Malaysia)
- Alor Gajah Local Plan Study  
(Client: JPBD)
- Jitra, Kepala Batas & Tunjang Local Plan Study  
(Client: JPBD)
- Pandamaran (Klang) Local Plan Study  
(Client: JPBD)
- Kemaman Structure Plan Study  
(Client: JPBD)
- National Spatial Plan Study  
(Client: JPBD)

*Project Supervisor For The Following Traffic Impact Assessment (TIA) Studies:*

- Proposed New City Hall, Kota Kinabalu, Sabah  
(Client: Rainbow Bay Project Management Sdn Bhd)
- Low Yat City Development, Kuala Lumpur  
(Client: Low Yat Group)
- Pusat Bandar Damansara  
(Client: Selangor Properties Berhad)
- New Kelana Jaya Centre  
(Client: Saujana Pertiwi Sdn Bhd)
- Commercial Development at Jalan 51A/223 – Jalan Barat  
(Client: Crystal Properties Sdn Bhd)
- Beaumont Industrial Estate  
(Client: Berjaya Leisure Berhad)
- Larkin Central Development  
(Client: Malaysian Resources Corp. Bhd (MRCB))
- Commercial Development at USJ (UEP Subang Jaya)  
(Client: Baktihan Sdn. Bhd.)
- Tanjung Aru, Sabah  
(Client: Hong Leong Property Management)

*Project Supervisor For The Following Traffic Impact Assessment (TIA) Studies: (Cont.)*

- Kuchai Entrepreneur's Park Junction Analysis  
(Client: *H.S. Liao Sdn Bhd*)
- Mont' Kiara Development  
(Client: *Sunrise Berhad*)
- Kuantan Shopping Centre Development  
(Client: *Cempaka Properties Sdn Bhd*)
- Sun Factory Redevelopment  
(Client: *Berjaya Industrial Berhad*)
- Hotel Development at Karamunsing, Sabah  
(Client: *Ranhill Bersekutu Sdn Bhd*)
- Batu Kawan Development Traffic Study, Kuching  
(Client: *Mudajaya Construction Sdn Bhd*)

#### **June 1992 To June 1994**

**Associate** (March 1993 to June 1994)

**Technical Development Manager** (Jan 1992 to Feb 1993)

The MVA Consultancy Sdn Bhd, Malaysia

(Transportation Planning And Management Consultants)

*Project Manager And Principal Transport Planner For The Following Major Transport Planning Studies:*

- Sime UEP Subang Jaya Transportation Masterplan, Malaysia  
A comprehensive transportation masterplan incorporating implementation schedules, costing inclusive of private and public transport requirements.  
Responsible for all aspects of technical management of the project from proposal formulation, networks modelling to report preparation.  
*Client: Sime UEP Development*
- The Bandar Baru Nilai Transportation Masterplan Study  
The state government of Negeri Sembilan in joint venture with a private developer have proposed to build a 6500 acre new township of Nilai just next to the existing Nilai Interchange along the Kuala Lumpur – Seremban Expressway.  
Responsible for all aspects of the project management including client liaison, project set-up, network modelling and presentation of findings.  
*Client: Menteri Besar Incorporated (MBI) Negeri Sembilan*
- Vintage Heights Township Transportation Masterplan Study  
Responsible for all aspects of the project management including client liaison, project set-up, and network modelling.  
*Client: Hong Leong Property Management Co. Sdn Bhd*
- Privatisation of the Butterworth Kulim Highway Study  
This privatisation project consists of the construction, operation, maintenance, financing and toll collection of a 16.78 km stretch of 4-lane dual carriageway highway. A traffic model was developed as part of the study. The model reviewed catchment, committed developments and the subsequent revenue forecasts.  
*Client: Gamuda Berhad*

*Project Manager And Principal Transport Planner For The Following Major Transport Planning Studies: (Cont.)*

- Development of a Regional Centre For A New Ipoh Bus Terminal  
The project involves a feasibility study, design of the bus terminal and taxi stand, analysis of the traffic impacts on the road system, and bus terminal requirements of the Ipoh Municipality.  
Principal transport consultant for the project.  
*Client: Larut Urban Project Sdn Bhd*
- Baling District Structure Plan  
Principal transport planner for the study.  
*Client: Economic Planning Unit, Malaysia*
- Sungai Petani Local Plan  
Principal transport planner for the study.  
*Client: Economic Planning Unit, Malaysia*
- Rantau Panjang Local Plan  
Principal transport planner for the study.  
*Client: Economic Planning Unit, Malaysia*
- Samaworld Theme Park Transport Masterplan  
*Client: Samaworld Management Sdn Bhd*
- Salak Tinggi Transportation Masterplan  
Principal Transport Consultant to the Selangor State Government in formulating and advising on the transportation needs of Bandar Baru Salak Tinggi as the Gateway City to the new Kuala Lumpur International Airport.  
*Client: Jabatan Perancang Bandar Dan Desa, Selangor*
- Malaysia – Singapore Second Crossing New Township Development  
Principal transport planner for the development of a transport network for a 10,000-hectare new township adjacent to the proposed Malaysia-Singapore Second Crossing.  
*Client: Lintasan Kedua (M) Bhd. (United Engineers Malaysia UEM)*
- Dengkil Estate Development Transport Study  
Principal transport planner to a 600-acre mixed development at Dengkil Estate, Selangor.  
*Client: Gema Padu Sdn Bhd*
- Privatisation of KTM Brickfields (KL Central) Multi-Modal Transportation Terminal Development  
Chief transport adviser to the proposed redevelopment of Brickfields Marshalling Yard into a major transport interchange consisting of an Airport Check-in Terminal, LRT station, KTM commuter and inter-city terminal facilities and other commercial and office developments.  
*Client: Malaysian Resources Corporation Berhad (MRCB)*

*Participate Both At The Technical And Management Level In The Following Projects Involving Advanced Transportation Engineering And Technology:*

- Traffic Control Surveillance Management Systems (TCSMS) for Klang Valley

The TCSMS system involves the installation of a traffic responsive computerised traffic control system. The study looks at a complete computerisation of existing traffic signals, highway information system, parking information, automatic vehicle location systems, monitoring and surveillance control management systems.

*Client: Time Engineering*

- Electronic Road Pricing for Kuala Lumpur

Electronic road pricing (ERP) is currently being considered as a means of controlling the demand for transportation in Kuala Lumpur. This study looks into the effect ERP would have in the context of an overall and integrated transportation plan for Kuala Lumpur.

Extensive use of computer modelling techniques is involved. A computerised traffic model covering the whole of Kuala Lumpur and the Klang Valley is being constructed. This will become an important tool for traffic simulation in Kuala Lumpur and the Klang Valley.

*Client: Renong Berhad*

*Supervise And Provide Technical Advice To The Following Traffic Impact Studies:*

- Arab-Malaysian Damai Complex Study, Kuala Lumpur
- Sin Heap Lee/Marubeni Development Traffic Impact And Traffic Management Study, Kuala Lumpur
- Jalan Ngee Heng Study, Johore Bharu
- Jalan Wong Ah Fook Development, Johore Bahru
- Sadong Jaya Development, Kota Kinabalu, Sabah
- Commercial Development at Jalan Mohd Taib, Johor Bharu
- Desa Petaling Interchange, Selangor
- Kelana Jaya Urban Centre, HICOM-Menang Development
- Jalan Damansara Office Complex, Arab-Malaysia-Scientax Joint Venture

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## **Overseas Experience (1979 – 1991)**

### **June 1987 To 1991**

#### **Senior Transport Analyst/Staff Engineer**

Gabites Porter & Partners Christchurch, NZ

- Takapuna Transportation Study
  - Rooding Needs for the Future

A study of the whole North Shore Region, examining the existing transportation situation there and predicting and analysing the future transportation demands. Strategic traffic models, relying on an extensive collection of existing inventory of roading and parking supplies, were used in this study. The result of this study takes the form of reports and recommendations to the Takapuna City Council of the basic transportation issues for the region and the future roading needs, which should be considered.

The second phase of the project focuses on the traffic and parking needs in the Takapuna Central Business Area (TCBA). The objectives of this study is to advise the Council of the possible policy options in relation to future parking needs for the TCBA and of the probable impacts of certain traffic management schemes to the City. Responsible for all aspects of technical inputs (land-use and traffic inputs) and the modelling system (zone and network formation, traffic generation and assignment, etc.). Rooding needs and proposals were evaluated both in terms of their traffic impacts and economic costs and benefits.

*Client: Takapuna City Council, New Zealand*

- Auckland Northern Motorway Investigation

This study provides a first order investigation into the needs for additional capacity (widening) and extension of the Auckland Northern Motorway. It consisted of four major stages: (1) Data collection and determination of options. (2) Model Validation. (3) Transportation demand testing and benefit evaluations. (4) Analysis, interpretation of results and recommendations. The project also involved bringing together the ideas of any unusual trends. Cluster analysis was also carried out to analyse patterns of "black spots".

*Client: Transit New Zealand*

- A Guide for the Estimation of Traffic Performance of Priority Intersections

The purpose of this work is to assist engineers in estimating the performance of priority intersections in terms of three measures i.e. the average delay to minor road vehicles, queue length and proportion of vehicles stopped. This is an attempt to put together research efforts in this area to date in New Zealand in a clear and concise way for the use of traffic engineers.

Principal researcher, responsible for putting together research efforts in the area of priority intersection performance to date in New Zealand in a publishable form.

The project has been completed and takes the form of a report entitled "Performance Analysis of Priority Intersections – A Practitioner's Guide".

*Client: Transit New Zealand*

#### *Other Selected Projects Undertaken in New Zealand:*

- Timaru City Traffic Studies: Roads and Parking in Central Area
- Participated in the work of the Technical Advisory Committee for Traffic and Parking Analysis of Timaru City
- Rotorua City Transportation Study
- Christchurch Northern Arterial Study
- Taharota/Anzac Corridor Improvements (North Shore City): Traffic Impacts and Economic Evaluation
- Smales Farm Development (North Shore City): A Traffic Study



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**1983 To 1987**

**University of Canterbury, Christchurch**

Researched in “Uncertainty in the Economic Evaluation of Transportation Projects”, sponsored by way of a Ph.D. research grant from the Road Research Unit, National Roads Board, N.Z.

Obtained a Ph.D. (Civil Engineering) in May 1987. The above research included case studies on the Christchurch Southern Arterial Scheme with the use of SATURN (a transport-modelling program), and 10 other rural roading projects in New Zealand. An approach in the form of Monte Carlo simulations was also developed to quantify the uncertainties involved.

**1979 To 1982**

**Assistant Engineer in Civil Division**

The Henderson Busby Partnership, UK.

*Major works include:*

- Checking calculations and working drawings of a multi-storey building on behalf of a local council in London
- Design of steel shelving for storage of car parts
- Monitored, measured and analysed deflections of coffer dams (Dover Harbour, UK)  
Design of support structures (reinforced concrete piers, pre-stressed beams and decks etc.) for Birmingham Airport Maglev (Magnetic Levitated) transit train

**1975 To 1978**

**Queen Mary College, University of London**

Graduated with a B.Sc. in Civil Engineering (First Class Honours) in August 1978.

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### **Transportation Computer Software Application Experience**

#### **SATURN** (Simulation and Assignment of Traffic in Urban Road Networks)

A very popular transportation software package developed at the Institute of Transport Studies, University of Leeds.

A Christchurch City transport model was built with the use of SATURN. The results of which formed the basis of a Ph.D. thesis. (4 years; 1984 – 1987)

#### **TRACKS**

A suite of transportation programs, developed in New Zealand, and is used extensively in most major cities in New Zealand. Direct experience of its application to the following cities (4 years; 1988 – 1991):

- i) Christchurch City
- ii) Timara City
- iii) North Shore City (formerly Takapuna City)
- iv) Albany Basin
- v) Rotorua City

#### **TRIPS** (Transportation Improvement Planning System)

TRIPS is a transportation planning package of programs which contains all of the facilities required to carry out complex and detailed analyses of transportation problems. It is developed in the UK by the MVA Consultancy Group.

Direct experience of its use in the following projects (since 1992):

- i) Sime UEP Subang Jaya Transportation Study
- ii) Nilai New Town Transportation Study
- iii) Butterworth – Kulim Highway Privatisation Modelling
- iv) Sungai Petani Transport Network Model
- v) Kuala Lumpur and Klang Valley Transport Modelling
- vi) Shah Alam Expressway Network Modelling

#### **TESS** (Traffic Engineering System Software)

TESS is a set of six independent programs, which together form a powerful software package for the analysis and solution of many traffic engineering problems. It is developed in the UK by the Transport and Road Research Laboratory (TRRL), and is distributed by the MVA Consultancy.

Have supervised a university undergraduate in his thesis to evaluate TESS performance in a Malaysian environment. Three types of junctions were involved, namely priority junction (PICADY), roundabout (ARCADY) and signalised junction (OSCADY).

#### **SIDRA** (Signalised Intersection Simulation Software)

SIDRA is a junction analysis software developed by the Australian Road Research Board (ARRB). Its range of capabilities covers analysis of signalised and priority junctions including roundabout. The lane configuration, cycle time, allocation of green time, signal phasing, the degree of saturation and various other specific junction parameters of the intersection can be specified as input to the software. The result of the analysis will yield outputs, which describe the performance of the intersection in terms of v/c ratio, delay, queues and level of service.

**Publications**

“Economic Evaluation of the Christchurch Southern Arterial”, Proceedings of the 12<sup>th</sup> Australian Transport Research Forum Brisbane, July 1987.

“Uncertainty in the Economic Appraisal of Roading Projects in N.Z”, Transactions of the Institution of Professional Engineers New Zealand, Civil Engineering Section, Vol.16, November 1989.

“System Wide Accident Analysis – A Study of Five Major Cities in New Zealand”, Proceedings of the IPENZ Annual Conference 1991, Volume 1.

“System Wide Accident Analysis Using Transportation Study Volume Estimates” Transactions of the Institution of Professional Engineers New Zealand, Civil Engineering Section, Vol.18, November 1991.

“Transportation Network Modelling in Malaysia – Some Critical Issues”, Proceedings of the First Malaysian Road Conference, Paper 2, Volume 1, June 1994.

“Transportation and Urban Development in the Klang Valley: A Serious Imbalance”, National Seminar on Building Better Cities, University Technology Malaysia, January 1995.

“Financing A Privatised Highway in Malaysia”, Transport’98 International Seminar, The Chartered Institute of Transport (CIT), Sri Lanka, February 1998.

“Draft Manual For Traffic Impact Assessment,” Fourth Malaysian Road Conference, 30-31 October & 1 November 2000. (Joint Authors)

"The Relationship between Car and Bus Travel Times", Proceedings 21<sup>st</sup> ARRB Conference Cairns, 2003.