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SOARING AHEAD TOWARDS HIGHER INSTITUTION CENTRE OF EXCELLENCE

DEC 2019 // PREPARED BY DR ABDUL
KHABIR RAHMAT



EDITORIAL

Assalamualaikum wbt to all readers We wish you all a healthy and happy life. Welcome to the first issue of this quarterly! After over 36 years of MITRANS existence, being a center of excellence, we actually have a lot of research archived. Most of these studies are in the form of consultations with our clients. The rest is published in various printed and online international /national journals and reading materials. Yes, It is time for us as a center of excellence to aspire to the highest level by taking the best of academic and commercial media to ensure that the institute is competitive and sustainable.

One of the main purposes of this piece is a medium for us to compile and communicate to all our stakeholders on what we have to offer and what's new in the transport industry. Some key segments will be introduced. The first is the latest development of activities carried out in Mitrans. The second is an article written by members of our community of researchers and alumni. We hoped that you will enjoy reading this quarterly release. If you have any other enquiry or would like to contribute your ideas feel free to contact us.

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OCTOBER - DECEMBER 2019 EVENTS

OCT - 2019

EXECUTIVE DIPLOMA OF TRANSPORT MANAGEMENT AND ENFORCEMENT



The long planned Diploma Program named Executive Diploma in Transport Management and Enforcement is a collaboration between Road Transport Department Malaysia, Civil Service Department and MITRANS, UiTM. The first cohort kicked off on end of September 2019. Total of 30 JPJ staff have been selected to enrol into the program. Let's pray for their ease in their learning journey and success.

91 CONVOCATION CEREMONY



91st Convocation convocation ceremony held at Dewan Agung Tuanku Canselor, UiTM Shah Alam. We have four graduating students to receive their MSc in Transportation and Logistics scroll which is Amalina Mohd Ashraf, Mohd Afiq Abdullah, Noor Shahida Mat Nawawi and Muhammad Aziyan Hussin. Congratulation!

SELANGOR RND COMPETITION AND INNOVATIONS EXPO



From the 10th of October till the 13th of October 2019, the 2019 Selangor R&D and Innovations Expo was held in Malaysia International Trade and Exhibition Centre (MITEC), Kuala Lumpur. MITRANS was represented by Malaysia Logistics Performance Index team and won 4th place in the competition.

OCT - 2019**PROFESSIONAL HALAL EXECUTIVE TRAINING 4TH SERIES**

MITRANS is one of the appointed agent to conduct Professional HALAL Executive Training. The 4th Series of Halal Executive training 10 days starting from 4th October 2019. 12 participants joined the training and have passed their exam to be certified as Professional Halal Executive.

NATIONAL TRANSPORT POLICY LAUNCHING EXPO: OPEN MIC SESSION

In conjunction with the launching of National Transport Policy. Ministry of Transport supported by MITRANS have conducting a pre-launching event. National Transport Policy Launching Programme, KL Central on 16th - 18th October 2019. Open Mic session.

OPEN MIC SESSION FEATURED SPEAKERS- 16th October (Wed). Morning : Kamarudin Jasiman - last mile delivery service level matrix, challenges and way forward.ii. Evening : Dr. Roslina - Infrastructure Invest regimes for Regulated Services Business. 17th October (Thurs) i. Morning :1.Dr. Wan Mazlina - Future Air Mobility/Drone 2.Dr Emi Normaline : Halal logistics: Issues and Challengesii. Evening :1. Azlan Abu Bakar - Malaysia Logistics Performance Index 2. Anas Afandi Ahmad Apandi - Haulage liability : Responsibility of hauliers & its customers 18th October (Friday) i. Morning : Dr Roslina - Airport Business Model and Clusterization in Malaysia 2. Mr Ben Long Term Logistics and Dr Abdul Khabir ii. Evening : Dr Ayu. Transport & Carbon emission

JOURNAL WRITING WORKSHOP INTER-UNIVERSITY

October 23, 2019 - MITRANS organised a workshop which gathers various potential co-authors for collaboration in publication. Collaborators include members from UTEM, UMT, and UKM.

NOV - 2019

16TH MITRANS ADVISORY COUNCIL MEETING



November 18, 2019 - The 16th MITRANS Advisory Council meeting was held at the Chancellery Building UiTM. The meeting was an important avenue to report and gather views from council members consisting of various experts and stakeholders. From the meeting MITRANS has gathered many valuable input from the council members which should further boost the performance to achieve to the higher level.

NOV -2019

VENDOR CAPACITY BUILDING PROGRAM MED- MITRANS 2019 -2020



MITRANS have been appointed by Ministry of Entrepreneurial Development as one of the technical agency to provide five extensive training aiming to enhance and strengthen vendor's capacity. The program started from Nov 2019 until March 2020.

DEC -2019

POST GRADUATE COLLOQUIUM



December 12, 2019 - One of the important event for post graduate student is colloquium session. This event is an avenue for students to gather after the long semester hard work to exhibit their current progress and at the same time it is the time for them to meet each other. There are also poster competition for the colloquium where participants will be evaluated based on the content, presentation and creativity. Poster results: Winner Akmal Asyraf 1st Runner up : Nor Bakhriah Sarbani, 2nd Runner up Norhafiqah Khalid

DEC -2019

JOURNAL ARTICLE WRITING WORKSHOP



December 13, 2019 - The Malaysian Institute of Transport, MITRANS, holds a Journal Article Writing Workshop involving postgraduate students and MITRANS citizens.

Head of MITRANS Graduate Studies, Ts. Dr. S. Sarifah Radiah Shariff said one of the objectives of the workshop was to give participants exposure to the features of good journal articles and effective journal selection tips in the field.

He added that emphasis was also placed on the relevant aspects of reporting and data analysis.

The workshop was attended by postgraduate students who completed the initial draft of their articles. The workshop approach was more of a two-way discussion where participants were also given the opportunity to comment on examples of articles being published while providing insights for improvement.

MEDIA APPEARANCE

December 23, 2019 - Halal Logistics Discussions Hosted by . Ustaz Mohd Amri Abdullah and guest Dr. Harlina Suzana Jaafar (Director of MITRANS, UiTM) and Noor Dazleena Mohd Daud (Pengarah Urusan A-Transglobal Sdn. Bhd.) at #MyHalal at 6.00pm on TV1 | myklik.rtm.gov.my |

Scan QR code below to watch the video



E-COMMERCE WAVE: THE NEW FRONTIER OF MALAYSIAN LOGISTICS PERFORMANCE

BY: AZLAN ABU BAKAR, ACTING DEAN/ LECTURER, LOGISTICS MANAGEMENT DEPARTMENT OF LOGISTICS, PICOMS INTERNATIONAL UNIVERSITY COLLEGE

Today, we can place an order anywhere (as long as we have the Internet or telco access) and set a delivery point. The Malaysian e-commerce market is valued at RM24.6 billion. In November 2017, Malaysia launched the first Digital Free Trade Zone (DFTZ) outside of China. It will facilitate international e-commerce and it is expected to bring positive growth of small and medium enterprises' (SMEs) goods export at US\$25 billion by 2025.

Our laptop, tablet, and mobile phone are now virtual shopping malls. This facility which is also known as a marketplace is linked to a payment gateway, so it is more convenient, easier, and faster. However, is it that fast? Let us put ourselves as a customer who wants to buy a single customised T-shirt. Can it safely reach you and is it cheaper? Not to mention at the right time and the right place.

These are the challenges and the competitiveness of our logistics industry will determine the performance. Currently, logistics service providers (LSPs) do not just deliver point-to-point goods, but also value-added services such as packaging, storage, customs clearance, and tracking services. Today, customers demand fast delivery at a lower cost. Sellers have to make precise decisions with uncertainty of demand and low visibility of supply chain. Here, then, we need to measure our logistics performance.

Malaysian logistics performance should be straightforward and easy to understand as this enables quick identification of what and how it is being measured, practical to the industry with consistent and clear objectives. Continuous efforts to measure logistics performance then lead to competitive advantage with technological utilisation. Furthermore, as e-commerce is meant for borderless market, it is vital to ensure trade facilitation of every transaction.

To strengthen this e-commerce wave and create a competitive logistics industry especially for the SMEs, which components should we consider as part of the logistics performance measurement in the context of trade facilitation? And where we should start? To answer these questions, we put three main components: (1) clearance process, (2) competency and quality of logistics services, and (3) information visibility. Clearance processes are not as easy as we thought. The procedures can be complex for first-time exporters or importers.

There are radical changes from the traditional method by using form by form to clear the cargo, as of now we only need to use electronic forms. Using electronic form is faster and more convenient to importers and exporters as this affects the visibility of supply chain. It could also help to improve transparency during clearance.

On the other hand, the physical processing time has to reduce. This is to ensure that the electronic submission complements the smooth and faster physical inspection process during cargo arrival at the border gate. Besides, any delay of physical inspection indirectly increases induced costs.

Talking about the costs, the competency and quality of logistics services also give advantage to minimise the costs. As we can look into performance quality of logistics services, the basic characteristics of operating logistics services have to be fulfilled in terms of minimal time for cargo clearance and delivery time as per scheduled without compromising the condition of goods. On top of that, reliability quality is needed without failing. Reliability quality is the prime concern in supply chain. It is to ensure smooth logistics operations, for instance, we are able to fulfil the demand under stated conditions for a specified period of time.

It is important for sellers to know where their goods are now. E-commerce supply chain can be improved and strengthened by making data readily available to sellers (in terms of clearance process and cargo delivery) as well as customers (goods' arrival time). This is what we call as supply chain visibility (SCV). Information in the supply chain is visible to partners. Of course, there are some issues in terms of security of the goods when making it all visible. So that is why we need a blockchain technology in our SCV. It provides standards and protocol for data implementation as well as ensures the security and identity issues are secured.

By keeping sellers and consumers, as well as service providers and users front and centre, logistics performance is becoming better than ever before. In addition, as trade facilitation measures build a system of trust and efficiency between regulatory and industries, our logistics industries and e-commerce are starting to see significant competitive gain.



HIGH SPEED RAIL PROJECTS IN SOUTH EAST ASIA MAINLAND: SHIFTING ORIENTATION BETWEEN SOCIAL AND BUSINESS

BY ADI AIZAD YAJID (PH.D) LECTURER UMK , ALUMNI MITRANS, UITM

The eagerness of Association of South East Asia (ASEAN) countries to pursue with high-speed train projects could be witnessed with the on-going progress of the facilities developments done by the participating countries. Mostly consist of mainland countries, Malaysia, Thailand, Lao People Democratic Republic (PDR), Cambodia, Myanmar and Vietnam, with the additional of Singapore into the scope of projects developments, this project has been one of the major transportation sector developments agreed upon and it received unanimous interest from the members. The project might provide a different type of definition towards the railway sector in South East Asia (SEA), which is very much known for its unreliability services. Poor facilities and very long travel time are among the stigmas that come to the mind of consumer in relation to railway services. Beginning in 1995, during the 5th ASEAN Summit that was held in Bangkok, the idea of having railway connection between SEA and China was announced.

It will be done through Singapore-Kunming Railway Link (SKRL) project. It was meant to be as one of the major developments that will be materialized collectively throughout SEA mainland, as far as the development of transportation sector is concerned (Anguang, 20117). SKRL project could be considered as part of the Trans-Asian Railway (TAR), which was introduced by United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP) in 1960s. The intention of TAR is to connect Singapore to Istanbul, Turkey. The railway line proposed will be approximately 14000km in length (Florento and Corpuz, 2014). The seriousness of ASEAN members to develop the projects could be seen as this particular idea of developments, SKRL project, was later been included in the more recent Master Plan on ASEAN Connectivity 2010 (MPAC10) as one of the major transportation developments projects, besides other transportation developments involving other modes of transportation. Since the developments have yet to be completed, the priority of the project has been continued with its present in Master Plan on ASEAN Connectivity 2025 (MPAC25), with the same level of importance, as the continuity from the previous Master Plan on ASEAN Connectivity.

It was reported that by having the high-speed train services, it would be able to boost the economy of the countries that own the services and facilities. In the case of SEA, the availability of high-speed train services would be able boost the regional economy throughout, as the proposed railway lines could significantly become the connector between 2 continents, namely Asia and Europe through China. Through this connection, it will open more possibilities of trades and investments for the region, on top of more modern and efficient way of transporting passengers (Muengrit, 2014).

As per report by Channel News Asia, the high-speed rail that will connect Kuala Lumpur to Singapore will significantly boost the economy of Malaysia, according to analysts (Goh, 2016). It is rather a win-win situation for both neighboring countries. Step back a few steps back to see railway industry in ASEAN from the historical perspective, the situation back then is very much different from the future that the industry is heading to. In an interview with the then State Railway of Thailand (SRT) Governor,

Prapat Chongsangua, he highlighted that the railway services provided by SRT are meant to assist low income in moving from 1 destination to another. As on 2013, the fare of SRT has never been revised for 20 years. Such situation shows that the intention of railway services of SRT since Rama V (The Prospect Group, 2013). The same approach been adopted by Vietnam Railway (VR), as per explanation by the director of the railway in the central province of Quang Binh in 2014 (Tre, 2014). Keretapi Tanah Melayu (KTM) also looked into the need to serve the community as part of their duty in the railway sector of Malaysia. After no increment of fare been made towards Komuter services of KTMB for 12 years commencing 2003, in 2015 only KTMB increased the fare.

Even though the monetary loses are obvious, as per mentioned in the interview, still the government subsidized the fare (Utusan Online, 2015). This is one good indicator to show how the authorities react to the importance of railway in social contribution back then. Both past and future of the railway sector sit in a different side of the coin, which would be impossible to be merged together. Looking into the current trends of railway developments, more business approaches are being adopted in the developments process. The way authorities approach the project lean heavily towards a businessman's approach towards business opportunities.

Previously, the railway links and facilities that were been developed only focused and prioritized on the local environment. With the possibilities owned through the SKRL, business opportunities extended to the reach of railway facilities. In the context of SKRL, the facilities will connect Singapore to Kunming with 3 different options of route, namely through Singapore, Malaysia, Thailand and Lao PDR, or through Singapore, Malaysia, Thailand, Cambodia and Vietnam and also through Singapore, Malaysia, Thailand and Myanmar. The possibilities of connection able to be extended to Europe through China will provide ASEAN with more trade possibilities.



Another example could be seen through the situation of Myanmar, the state that has high dependency on land transportation. The developments of railway facilities will give the nation, which has international borders with 5 different countries, more possibilities and opportunities of trades and investments (Muengrit, 2014). Slowly but surely these particular projection could be made possible, at least from the calculations and predictions based on the current state of the railway sector for this particular sub-region.

Nevertheless, these hopes and dreams are not something that are easy to achieve. One of the major concerns is on the ticketing price of the high-speed train. A comparison of tickets, between air and high-speed train, has been simulated, based on the expected price, for the journey between Changi to Kuala Lumpur. For air carrier, the cost will be, on average, SGD100 for a round-trip. As for the high-speed train, the ticket is expected to be lesser than SGD74 for a round trip (Han, 2016). The distance of SGD26, or 26% cheaper might be a positive factor to boost the demand on high-speed train services, from the point of view of fare price. To understand more on how much will high-speed trains' journey fare, taking a reference from countries that operates the high-speed trains for quite a period of time able to provide the much needed information. Taking the example of Japan, to travel between Osaka and Tokyo, which the distance is about 500km, the ticket price will be between USD94 and USD134.90. as compared to flight, by taking into consideration low-budget carrier such as Jetstar or Peach, the cost of travel between those 2 cities will be somewhere in the ballpark of USD27.62 and USD110.49 (Finn, 2017).

The high cost to travel through the high-speed train originated from the cost that required to develop and maintain such services. For examples, the price tag for 350km rail links between Kuala Lumpur and Singapore is been estimated to be in the range of USD15 billion (Goh, 2016), and it requires USD5.4 billion to build railway connections between Bangkok and its southern region, Nakhon Ratchasima, which spur at 253km in distance (Linder, 2017). With 11 to 12 figures price tag on the projects, taking Malaysia as the example, it will be a huge concern on how that huge amount of investment money will do for the nation. If 1 million could be gained in a day, it requires at least hundreds of years to gain back the money invested in the projects. Due to this simple calculation of concern, under MPAC25, it was highlighted that one of the major barriers for SKRL is the return of investments. This particular situation is something that needs to be looked into properly and proper.

But, the question of whether such references could be used as the indicator of the orientation of the currently in progress high-speed train projects is yet to be confirmed. Based on the estimation made on the capacity of amount of freight and passenger that could be carried between China and Europe, based on the route through Azerbaijan, Turkey and Georgia, the capacity is on the 5 to 1 ratio. In other words, 5 tons of goods will be carried per 1 passenger carried (Bagirova, 2017). The competitions of transportation of passenger exist, as for the longer route, on the basis of efficiency of transportation since the concern in this side of railway sector is on the passenger. Based on the estimated travel time between Kuala Lumpur and Singapore, the journey with high-speed train will take approximately 2 hours, including transit time, as compared to the normal train that could cost between 4 to 6 hours in terms of travel time.

Still, it costs more than travel by air, which only cost 70 minutes in travel time (Han, 2016). When considering the travel between countries on a greater distance, travel time will be higher as transit time between countries will eat up a lot of that time. With the estimated cost of high-speed train and flight is fairly almost the same, it will gives the high-speed train more challenges to compete as the timing is greater than the flight time. In other words, the operators have to take into consideration all of the costs attached to the high-speed train in SEA since the projects' focus in on having multi-national type of railway movements. With that being the concern of the service provider and the return of investments highlighted as the concerns of the investors, most of the time the state government, business orientation is a compulsory approach, if loss could never be the option of the operations. Whether or not the change of orientations of railway services will significantly change the course of railway industry in ASEAN or not is still upon for discussion since the high-speed train projects have yet to commence, not at least in the nearest time possible. Since the projects are still in the phase of research and developments, still a lot of questions can only be answered by prediction and calculations based on the current situations of the railway sector.

References

- Anguang, Z. (2017). High-speed trains for the prosperity of South-East Asia. Retrieved from The Star Online website: <https://www.thestar.com.my/news/regional/2017/08/27/highspeed-trains-for-the-prosperity-of-southeast-asia/>
- Bagirova, N. (2017). Azerbaijan, Georgia, Turkey launch 'Silk Road' rail link. Retrieved from Reuters website: <https://www.reuters.com/article/azerbaijan-railway/azerbaijan-georgia-turkey-launch-silk-road-rail-link-idUSL8N1N52XR>
- Finn, C. (2017). Tokyo to Osaka: Fast, Cheap and Creative Ways of Getting There. Retrieved from TokyoCheapo website: <https://tokyocheapo.com/travel/transport/tokyo-to-osaka-fast-cheap/>
- Florento, H., and M. I. Corpuz. 2014. Myanmar: The Key Link between South Asia and Southeast Asia. ADBI Working Paper 506. Tokyo: Asian Development Bank Institute. Available: <http://www.adbi.org/workingpaper/2014/12/12/6517.myanmar.key.link.south.east.asia/>
- Goh, M. (2016). High-Speed Rail to significantly boost Malaysia's economy: Analysts. Retrieved from Channel News Asia website: <https://www.channelnewsasia.com/news/asiapacific/high-speed-rail-to-significantly-boost-malaysia-s-economy-analys-7936396>
- Han, L. (2016). What Will the Singapore-Malaysia High Speed Rail Project Mean? As the two countries move closer to realizing this project, it is worth looking at its potential significance. Retrieved from The Diplomat website: <https://thediplomat.com/2016/12/what-will-the-singapore-malaysia-high-speed-rail-project-mean/>
- Linder, A. (2017). Construction on China-Thailand high-speed railway to finally begin this month! Retrieved from Shanghaiist website: <http://shanghaiist.com/2017/12/06/china-thailand-railway.php>
- Muengrit, N. (2014). ASEAN High Speed Rail Will Boost Laos Economy. Retrieved from InvestAsian website: <https://www.investasian.com/2014/11/17/asean-high-speed-rail-laos-economy/>
- The Prospect Group. (2013). State Railway Corp of Thailand (SRT) Governor Prapat Chongsanguan on the development of railroad infrastructure. T. P. Group. Bangkok, The Prospect Group.
- Tre, T. (2014). Unknown future for market trains in Vietnam. Retrieved from Tuoi Tre News website: <https://tuoitrenews.vn/features/18584/unknown-future-for-market-trains>
- Utusan Online. (2015). Komuter: KTMB masih rugi RM60 juta. Retrieved from Utusan Online website: <http://www.utusan.com.my/rencana/komuter-ktmb-masih-rugi-rm60-juta-1.155557>



For illustrative purpose only
Image Source: engineering.com

GREEN HIGHWAY IN THE MALAYSIAN CONTEXT

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The current practice of highway projects in Malaysia has become a crucial agenda towards the sustainable development (Hazwani, 2013; Ismail et al., 2013; Zakaria et al., 2013b; Shen, 2011; MHA, 2010; Green Highway Partnership, 2009; Huang & Yeh, 2008). However, according to Butler & Åkerskog (2014), Reddy (2011), Yahya & Peng (2010), and Zainul Abidin (2010), the sustainable development is not well understood by the stakeholders in the highway projects, but it is well agreed as a beneficial approach if there is an improvement along with it such as a guideline, model, or framework that can be used for assessing green highway projects in Malaysia together with the environmental aspect considerations in order to upgrade the ways the highway projects are being planned and executed. As the highway system matures in Malaysia, it is crucial to emphasise on improving the current transportation for the future benefits by giving a priority on highway projects that covers the green concept since the highway system has a strong connection to all other alternative modes of transportation (Reddy, 2011; Talati, Talati, Mehta, & Six, 2013). Therefore, stakeholders in highway projects should focus in protecting the environment from the effect of uncontrolled construction activities in order to achieve a sustainable development.

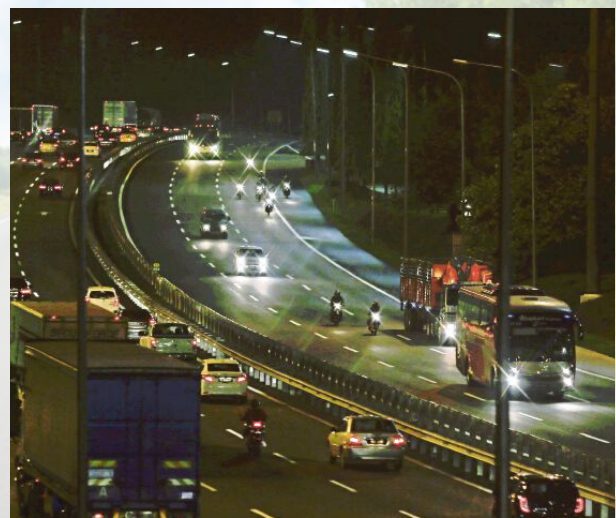
Malaysia is one of the growing countries in the Asian Pacific Region (Ismail et al., 2013). According to Public Works Department (2009), road construction has begun since before the independence in Malaysia. Efforts to improve the road system have been done properly after the country gained its independence in 1957 through the rapid development in transportation and the emergence of the Fifth Malaysia Plan initiated by the Federal government. The Federal and state government are the ones that responsible to the construction of the road in Malaysia, however, since the mid-1980s, private companies (also known as highway concessionaires) have been given the authorisation by the government to construct tolled roads and impose tolls to the road users (Public Works Department, 2009).

In recent years, initiatives and programmes have been promoted by the Malaysian construction industry to improve the construction performance. Due to the deterioration of road infrastructures and rapid increase in traffic volume, players in highway engineering have been forced to their limits to construct efficient highways for the sake of the users (Yahya & Peng, 2010). Here, enhanced sustainability policy is important to achieve better sustainability performance (Csutora, 2012).

According to MHA (2010), highway is the most important infrastructure and served as a backbone to the economic development of the country. The construction of the highways normally involves massive earthwork such as cutting the hilly area, backfilling low-lying area, and crossing on the wetland, and also reliance on non-renewable energy, generation of harmful emissions, and others. Although steps are taken to minimise the environmental pollution generated from the highway construction, such as assessing through Environmental Impact Assessment (EIA), monitoring through Environmental Monitoring Plan (EMP), and complying through Manual Saliran Mesra Alam (MASMA), awareness and concerns to control the carbon emissions that contribute to the Green House Effect and cause the global warming are still far behind.

A sustainable solution to the construction industry problems in Malaysia must be assessed. Highways pose a large negative impact on the surrounding ecosystems and overall environmental quality (Ashraf, Raquibul Hossain, & Griffiths, 2012). Moreover, highway projects players need to include practices that can reduce the highway effects on the environment, increase capacity, and benefit the society beyond the ability of the current highways. This can be achieved by instituting a system of green highway. Up to the present time, Malaysia has Malaysia Green Highway Index (MyGHI) that focusses on five (5) specific activities which are as sustainable design and construction activities; energy efficiency; environmental and water management; material and technology; and social and safety which was developed by Malaysian Highway Authority and Universiti Teknologi Malaysia (MHA & UTM, 2015). Malaysia Green Highway Index (MyGHI) is used as the project requirements or a guideline that must be followed in order to certify green highway.

Most of the engineers in Malaysia, especially those who involve in the highway construction industry are very accustomed with Green Building Index (GBI) certification programme and it becomes a reference to them each time they need to infer a logic conclusion about a green or sustainable rating system. However, Green Building Index (GBI) certification programme is more suitable for the commercial type buildings in Malaysia (Miller, 2012) and does not seem suitable for the infrastructures and facilities in the highway construction industry such as traffic lanes, acceleration lanes, deceleration lanes, shoulders, median strips, bridges, overpasses, underpasses, interchanges, approaches, entrance and exit ramps, toll plazas, service areas, maintenance areas, highway furniture, signs, and other structures and fixtures. In line with the green building initiatives, Green Building Index (GBI) is required to measure the classifications of a building development to meet a better energy saving and low carbon emission. To meet sustainable green roads, pathways and expressway, the classification and limitation must be properly assessed using rating system of green highway as the tools and guidelines for the local highway engineers in Malaysia (MHA & UTM, 2015; Zakaria et al., 2013b).



In an attempt to reduce the inflicted environmental damages, various green initiatives have become essential. Besides, there are other considerations particularly on the critical environmental pollution and carbon footprint as a result of the rapid growth of population and daily activities that must be taken into account in the sustainable development (Hijias, 2011; Yeang, 2011). Furthermore, unbalance exist between the resource usage and environmental impact in "greening" the highway (Frame & Cavanagh, 2009). Uncontrolled emission, for example, will contribute to a serious health problem (Zakaria et al., 2013a; Reddy, 2011). As far as the definition of green highway is concerned, green highway can be defined as a high quality roadway design that meets the transportation needs and sustains the highway users and social demands (Bryce, 2008; Green Highway Partnership, 2008; Krebs, 2009; Reddy, 2011; Singh et.al, 2011; Zhang et.al, 2011). The identification and implementation of an efficient green highway practice in highway construction industry may contribute to a lessening of environmental pollution and improving the highway quality for the sake of the environment and the end users. Malaysia has already well-established and assessed green building projects using Green Building Index (GBI). However, up until the implied time, there is no specific guideline or standard was used by the local highway designers in the planning, design, and construction stage of highway projects in Malaysia (Zakaria et al., 2013b). By introducing Malaysia Green Highway Index (MyGHI) to the stakeholders, the level of greenness for current and new highway can be measured.

All in all, green highway represents the very foundation of the environmental sustainability and it will certainly give positive impacts towards the sustainable design and management practices. According to Ismail et al., (2013), developed countries are looking forward into the preservation of the environment and put efforts to minimise the pollution. The most challenging part faced by the highway construction industry in Malaysia is the implementation of a first fully implemented green highway for the users (MHA, 2010). Perhaps the development of Malaysia Green Highway Index (MyGHI) as a guideline to be used in highway projects can reduce the current gaps and stimulate the sustainable design and management practices within the Malaysian context.



References

- Ashraf, M., Raquibul Hossain, M., & Griffiths, A. (2012). A Framework for Infrastructure Sustainability Assessment. In Proceedings of the 10th International Conference on Advances in Steel Concrete Composite and Hybrid Structures (pp. 43–48). Singapore: Research Publishing Services. https://doi.org/10.3850/978-981-07-2615-7_283
- Bryce, J. M. (2008). Developing Sustainable Transportation Infrastructure. Washington.
- Butler, A., & Åkerskog, A. (2014). Awareness-raising of landscape in practice. An analysis of Landscape Character Assessments in England. *Land Use Policy*, 36, 441–449. <https://doi.org/10.1016/j.landusepol.2013.09.020>
- Csutora, M. (2012). One More Awareness Gap? The Behaviour–Impact Gap Problem. *Journal of Consumer Policy*, 35(1), 145–163. <https://doi.org/10.1007/s10603-012-9187-8>
- Frame, B., & Cavanagh, J. (2009). Experiences of sustainability assessment: An awkward adolescence. *Accounting Forum*, 33(3), 195–208. <https://doi.org/10.1016/j.acfor.2008.07.007>
- Green Highway Partnership. (2008). Green Highways Partnership Fact Sheet. Retrieved from <http://www.greenhighwayspartnership.org/index.php>
- Green Highway Partnership (GHP). (2009). Green Highways and Green Streets for 21st Century Infrastructure: Strategies, Technologies and Funding. The Low Impact Development (LID) Center, Inc. Retrieved from http://www.mwcog.org/environment/Roads_Highways/presentations/Goo.pdf
- Hazwani, T. N. (2013). Storm Water Management Criteria for Malaysia Green Highway. Universiti Teknologi Malaysia.
- Hijias, A. S. (2011). Putrajaya: Experiential Learning for Sustainable Development. (R. Takim, M. F. Mohammad, & M. Baghdad, Eds.), "PUTRAJAYA: Experiential Learning for Sustainable Development" PJH-UiTM Collaboration 2011, 15th November 2011, Putrajaya, Malaysia. Putrajaya, Malaysia: Putrajaya Holdings Sdn. Bhd.
- Huang, R., & Yeh, C. (2008). Development of an Assessment Framework for Green Highway Construction. *Journal of the Chinese Institute of Engineers*, 31(4), 573–585.
- Ismail, A., Rozana, Z., Sani, B. A., Foo, K. S., Ain Naadia, M., Yazlin Salfiza, Y., ... Muhd Zaimi, A. M. (2013). Fundamental Elements of Malaysia Green Highway. *Journal of Applied Mechanics and Materials*, 284–287, 1194–1197. <https://doi.org/10.4028/www.scientific.net/AMM.284-287.1194>
- Krebs, S. W. (2009). "Green Highway" What Makes a Highway Green? In Wisconsin Asphalt Pavement Association (WAPA) Annual Conference. Middleton, Wisconsin. Retrieved from <http://www.wispave.org/2009annualconference.html>
- MHA. (2010). Preliminary Guide to Nurture Green Highway in Malaysia (First Edit). Lembaga Lebuhraya Malaysia.
- MHA, & UTM. (2015). Malaysia Green Highway Index Manual V1.0 (MyGHI). (UTM, Ed.) (First Edit). Malaysia: Perpustakaan Negara Malaysia.
- Miller, J. M. (2012). Institute for Sustainable Infrastructure Envision Rating System Need for an Infrastructure Sustainability Rating System Institute for Sustainable Infrastructure. Raleigh, United States.
- Public Work Department. (2009). Malaysian roads. Retrieved from <http://www.piar.org/ressources/documents/10978,3016,road-network-in-malaysia-v2.pdf>
- Reddy, M. A. (2011). Need of Green Highways in India for Sustainable Development. In 6th Symposium on National Frontiers of Engineering. Karagpur, West Bengal, India: 6th Symposium on National Frontiers of Engineering. Retrieved from http://www.iith.ac.in/~natfoe/images/abstract/Abstract-Prof. Amaranatha Reddy_Green_Highways.pdf
- Shen, Y. (2011). Research in low carbon technique and application of green highway construction , 2459–2462. <https://doi.org/10.1109/CECNET.2011.5769280>
- Singh, Goyal, R., Gupta, A. K., & Ogra, A. (2011). Greenroads: A Portrait of Sustainable Design and Construction for Indian Roads. In 2011 2nd International Conference on Construction and Project Management (Vol. 15, pp. 264–268). Singapore: IACSIT Press.
- Talati, V. A., Talati, A. V., Mehta, J., & Six, K. (2013). Green Highways: A Future Need. *PARIPEX-Indian Journal of Research*, 2(3), 109–111.
- Yahya, M. A., & Peng, N. C. (2010). Awareness in Innovative Highway Construction in Malaysia. In Conference of Asean Federation of Engineering Organizations CAFEO 28. Vietnam: ASEAN Federation of Engineering Organizations (AFEO). <https://doi.org/Paper CON24MY>
- Yeang, K. (2011). PUTRAJAYA: Experiential Learning for Sustainable Development. (R. Takim, M. F. Mohammad, & M. Baghdad, Eds.), "PUTRAJAYA: Experiential Learning for Sustainable Development" PJH-UiTM Collaboration 2011, 15th November 2011, Putrajaya, Malaysia. Putrajaya, Malaysia: Putrajaya Holdings Sdn. Bhd.
- Zainul Abidin, N. (2010). Investigating the awareness and application of sustainable construction concept by Malaysian developers. *Habitat International*, 34(4), 421–426. <https://doi.org/10.1016/j.habitatint.2009.11.011>
- Zakaria, R., Seng, F. K., Ainee, F., Majid, M. Z. A., Zin, R. M., Hainin, M. R., ... Marwar, N. (2013). Energy Consumption and Potential Retrofitting of Rest and Service Areas (RSAs) in Malaysia Case Study. *Applied Mechanics and Materials*, 284–287, 1311–1314. <https://doi.org/10.4028/www.scientific.net/AMM.284-287.1311>
- Zakaria, R., Seng, F. K., Majid, M. Z. A., Zin, R. M., Hainin, M. R., Puan, O. C., ... Moayed, F. (2013). Energy Efficiency Criteria for Green Highways in Malaysia. *Journal of Technology*, 3, 91–95.
- Zhang, X., Shen, L., Wu, Y., & Qi, G. (2011). Barriers to Implement Green Strategy in the Process of Developing Real Estate Projects. *The Open Waste Management Journal*, 4, 33–37.

MY PHD JOURNEY

*By: ASSOCIATE PROF TS DR CMDr Hj AMINUDDIN AROF -
Dean of MIMET UNIKL*

My PhD journey started in November 2011 when I registered as a part time student with the Graduate Business School. Due to my tight work schedule as a Lecturer and Head of Department at UniKL in Lumut, Perak and my unsuccessful search for a potential supervisor from UiTM Perak, I only reported to MITRANS in May 2012 after getting a green light from the top management. On my first day, I was requested to present my research proposal which was about the effect of cabotage regime on Malaysian domestic shipping and was relieved to receive a thumbs-up from almost everyone in the room. Subsequently, the Director (Dr. Intan Rohani) decided that I should be supervised by Dr Irwin U. J. Ooi who was the only maritime expert available in MITRANS. Unfortunately (in fact it was supposed to be fortunately hehe...), after the session was over, my supervisor nicely expressed his reservation towards my proposed topic as he was aware that one government agency was also undertaking on almost a similar research. He offered me to research in one of the three areas centred on the Brunei, Indonesia, Malaysia and the Philippines East ASEAN Growth Area (BIMP EAGA). As I was not familiar with the other two topics, I have chosen to research on Short Sea Shipping (SSS) and it was really a good bet as I have continued with the research from that day until the completion of my PhD journey. In fact, my research on SSS still continues until today.

As a part time student, it was always tough to find sufficient time to keep pace with the plan to complete my study in four years. My success would not be achieved based on my efforts alone. My two supervisors Dr Irwin and Dr Rawindaran Nair certainly deserved to share the degree although they do not need it as they already have theirs hahaha....I always described Dr Irwin as the most accessible supervisor in Malaysia and made life so easy for me. I can call him, SMS, whatsapp, telegram, email and whatever channel available where ever he was. In addition, I can always see him whenever he was in town. Even my co-supervisor who was in Cardiff University, always responded to my email promptly and visited me from time to time when he was in Malaysia. With these two god sent supervisors, there was nothing better I could ask for.

The systematic administration of postgraduate (PG) students by MITRANS was also a significant contributing factor to my success and the success of many research students. Besides the activities that were frequently organised, the commitment shown by most of the staff in keeping track with the PGs progress was second to none. Additionally, the warmed friendship shown by fellow research students and the culture of mutual assistance among PGs have developed MITRANS into an environment that is very conducive for PG research. In retrospect, I would like to encourage all part time students to participate in all the important activities and spend as much time as possible at MITRANS in order not to lose your research momentum. For all PG students, my final advice is to treat your supervisor as one of the closest persons in your life besides your parents and spouse. Always make a point to see them and communicate with them as frequent as possible. All the best and may Allah ease your PhD/MSc journey.

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