



KEYNOTE ADDRESS

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**OUTLOOK OF MALAYSIAN ROAD INFRASTRUCTURE**

INTERNATIONAL ENERGY WEEK 2018  
KUCHING, SARAWAK

23 JANUARY 2018

*(Salutations)*

*Assalamualaikum w.b.t., Salam Sejahtera, Salam Ibu Pertiwiku, Salam  
Negaraku Malaysia*

*Distinguished guests,*

*Ladies and gentlemen,*

1. Firstly, let me offer my warmest welcome to all delegates of the International Energy Week 2018 ( IEW 18 ) and to the secretariat, congratulations for successfully organising this conference. As we readily know, it is widely acknowledged that large scale development of transport networks are likely to continue in many Asia Pacific economies given the shift in economic power resulting from the rise in Asian wealth and rapid urbanisation. It is expected that significant investments will be made in road infrastructure to accommodate increasing logistic movements and public transportation to relieve congestion in urban areas.

2. Undoubtedly, infrastructure development is one of the criteria in defining a nation's stability and growth. In Malaysia's context, it has also been the basis of the comprehensive 2018 Budget where the combination of advanced and sustainable infrastructure development upholds the theme of serving our citizen's needs. In particular, roads are identified as important elements to ensure access to basic amenities, elevating productivity, connectivity and improving service delivery in our supply chain.

## **THE MALAYSIAN CONSTRUCTION INDUSTRY**

3. As such, developing the nation's infrastructure is established as one of the six strategic thrusts of the 11th Malaysia Plan 2016-2020 (11th MP) where efforts to catalyse progress and improve our citizen's wellbeing is prioritised with infrastructure development taking a big chunk of the overall approved allocations.

4. Under the Fourth Thrust of the 2018 Budget, Driving Inclusive Development, was allocated RM6.6 billion towards providing quality infrastructure for our citizens which includes the following:

- Pan-Borneo Highway;
- People - centric projects;
- The development of communication infrastructure;
- And the construction of roads in rural areas.

5. I am proud to say that we are at par with developed countries. For example, we are using the Highway Information Modelling (HIM) in implementing the 2,239km Pan-Borneo Highway which aims to increase connectivity in Sabah and Sarawak. HIM utilises a combination of Geospatial Information System (GIS) and Building Information Modelling (BIM) which are designed to minimize errors and rework during construction in ensuring optimization of resources.

6. Furthermore, mega infrastructure projects throughout Malaysia under the 11th MP are largely responsible for the 8.3 percent growth in the construction industry in 2017. These projects include the East Coast Rail Line (ECRL), Mass Rapid Transit project (MRT) and Pan-Borneo Highway.

Ladies and gentlemen,

## **FUNCTIONS OF THE MOW**

7. In the Ministry of Works ( MOW ), we are driven by 5 strategic thrusts which are crucial in ensuring the aspirations of the Ministry's Vision and Mission. Our first strategic thrust being the "**Development** of Roads, Highways and Building Infrastructure" where roads and highway networks enhance economic growth and stimulate development. Therefore, MOW is vigilant and mindful in ensuring that construction of roads and highway networks are efficient and of high quality for the people's safety and convenience.

8. Our second strategic thrust is the "**Maintenance** of Roads, Highways and Building Infrastructure" so as to be more efficient and effective in ensuring its optimum usage. Here MOW is responsible to execute maintenance works according to specifications stipulated in the contract and embracing the latest technology in its maintenance works to guarantee added-value in existing infrastructure.

9. Our third thrust is the "Enhancement of the Construction Industry based on Sustainable Development" which is reinforced with the latest technology application and innovation where Industry players are encouraged to apply the latest technique in increasing quality and productivity. Furthermore, a best-practice concept is adopted and emphasized in project management to yield a project with high quality and economic efficiency.

10. Our fourth strategic thrust is the “Enhancement of Human Resources and Construction Industry Player Competition” whereby MOW is committed to ensure the excellence of industry players in terms of knowledge, skills and competency in order to compete on the global stage.

11. Our last strategic thrust is the “Enhancement of Organisation Management” which aims to strengthen the construction industry and infrastructure development, financial management efficiency, accountancy, human resources, information and communication technology (ICT) in enhancing and ensuring productivity..

12. Ultimately, the MOW’s key objective is to “provide infrastructure in line with the people’s needs’ that fits perfectly with Budget 2018 theme of “prospering an inclusive economy, balancing between the worldly and hereafter for the wellbeing of our citizens.

Ladies and gentlemen,

13. I will share with you some of our projects and initiatives details before addressing the industry’s challenges and our way forward.

## **KKR INFRASTRUCTURE PLANS**

### **Highway Network Development Plan (HNDP) 2020-2030**

14. The Highway Network Development Plan (HNDP) was formulated to ensure all infrastructure provided can accommodate future traffic needs. This plan determines the need for new roads to be developed as well as upgrading existing ones. Currently, nationwide reviews are

being conducted before development commences in 2020, and is planned to be concluded by 2030.

### **Blackspot Treatment Project**

15. The Blackspot Treatment Project aims to improve areas with high potential for accidents to occur. Improvements made includes placing signboards, road line markings, traffic lights and lighting. Although the cost of mending each location is low, this initiative has a high and direct impact to road users.

### **Weight Raise Programme**

16. The weight raise programme is in line with the Cabinet decision on 11 January 2017 to raise the weight limit for commercial vehicles on federal roads from 44 to 50 tons. This upgrading programme aims to;

- i. strengthen the country's logistics industry for an optimum load of goods;
- ii. reducing the number of heavy vehicles traveling on the road;
- iii. reducing traffic congestion and accident rates;
- iv. improving comfort and safety for road users; and
- v. providing better facilities for road users.

Ladies and gentlemen,

## **ENERGY PROJECTS**

17. As we all know, there is a universal call to end poverty, protect the planet and ensure that all people enjoy peace and prosperity. In 2016 I attended the United Nations Climate Change Conference in Paris, where great emphasis was put on using sustainable energy in road infrastructure with Goal 7 of the United Nations Sustainable Development Goals being cited as a movement towards affordable and clean energy. Malaysia during this Conference pledged to reduce its GDP Greenhouse Gas (GHG) emissions by 45% by the year 2030.

18. In fulfilling this pledge, the Malaysian Energy Efficiency Master Plan has been implemented to tackle issues pertaining to energy supply by managing it efficiently. The core of this Plan is to implement specific energy efficiency programmes that will reduce energy consumption up to 9.5% by 2021 in the industrial, commercial and residential sectors. The Ministry of Works is supporting this Plan by implementing energy efficient street lights on federal roads and highways.

### **Pengerang Integrated Petroleum Complex**

19. The Ministry of Works is also been entrusted to carry out the construction of road networks for the Pengerang Integrated Petroleum Complex (PIPC), a project that the government has committed RM69 billion, i.e. 31%, of its total investments under the Economic Transformation Programme (ETP).

20. These complex road networks have been divided into 6 packages which will cost a total of RM1.86 billion and completed by 2019. They are vital in ensuring maximisation of capacity for PIPC as one of the largest oil and gas industrial development in this region and in fulfilling Malaysia's future energy needs.

21. It is hoped that the construction of these road networks will boost the Gross National Income (GNI) to RM18.3 billion and benefit the 8,600 workforce in Pengerang.

### **Cuplump Modified Asphalt (CMA)**

22. Over the past few years, the Public Works Department and the Malaysian Rubber Board have been involved in a joint study to determine the effectiveness of using cuplump modified asphalt (CMA) for road construction or resurfacing works. Cuplump is freshly coagulated rubber, where the coagulation process takes place in the cup of a rubber tree with no manufacturing process involved.

23. The study has been yielding positive results so far and when implemented, Malaysia will be the first country in the world to use CMA technology. The pilot project has been conducted at the Kota Bharu-Kuala Krai highway project in Kelantan which comprises of a 2 kilometre stretch utilising CMA in its resurfacing works.

24. CMA technology has been proven to improve the resilience and durability of roads in terms of resistance to cracking on its surface.

Cuplump has also been found to increase the viscosity of the asphalt mixture, thus rendering it more resistant to higher temperatures.

Ladies and gentlemen,

## **MAINTENANCE – ROAD SAFETY AUDITS**

25. Safety is also our top priority. According to research by Dr. Roger Thompson from Curtin University of Technology, Australia; 43% of accidents are contributed by road design factors.

26. Likewise, Road Safety Audit (RSA) is a formal examination of the planning, design and construction of a road project. This audit is conducted by independent and qualified examiners to identify potentially unsafe features or operational arrangements that may adversely affect the safety of any road user.

27. There are 5 Stages of RSA. The first 3 stages are pre-tender evaluation and the last two stages are construction and post-construction.

28. The first 3 stages can be portrayed as prevention as it focuses on any issues that can be seen from the perspective of road-safety during the design stage. Meanwhile, stages 4 and 5 are to ensure proper execution and monitoring for any issues arising.

29. Once a project has been completed, the road will be gazetted under the Federal Act 1959 (Act 376) where these roads will then be

maintained by a concessionaire appointed by the Government, in line with the Government privatisation policy.

30. Currently, there are 8 zones maintained by 8 different concessionaires. These concessionaires are responsible for, among other things, patching potholes, road shoulder maintenance, grass cutting, and road furniture maintenance. They are also expected to execute emergency works such as the removal of fallen trees and debris, or when there is a slope collapse.

Ladies and gentlemen,

### **THE INTELLIGENT TRAFFIC SYSTEM (ITS)**

31. Technology wise, we are utilising the Intelligent Traffic System (ITS) in solving transport problems which has been implemented to support the Fourth Industrial Revolution driven by the convergence of advance technologies.

32. Recent technological developments enable vehicle information to be transmitted to a control center delivering information such as current traffic conditions, roadside infrastructure and automated dynamic warnings. Information received by the control center can then be directed to other road users for better travel and logistic planning.

33. In addition, the Government is also in the midst of implementing Multi Lane Free Flow (MLFF) to overcome traffic congestion in toll

plazas and Weigh in Motion (WiM) to overcome the problem of carrying heavy loads which indirectly damages the road structure.

34. The transformation of the nation's transport system is outlined by these methods, which are:

- i. **The Internet of Things (IoT)** where devices and objects are embedded with communication capabilities. With this technology, devices are connected to networks and can be linked to one another, enabling collaborative sensing and making businesses more efficient.
- ii. **Improving Vehicles using** Crash avoidance technologies such as electronic stability control (ESC), autonomous emergency braking (AEB), anti-lock braking system (ABS) for motorcycles, tyre safety and blind spot monitoring system (BLIS) which are being promoted to users worldwide.
- iii. **Seamless mobility for** all modes of transportation which are fully connected into a single, integrated network with public transit at the core. The idea is to have 'shared mobility', where cars and bikes are borrowed instead of owned.
- iv. **Mobility as a Service (MaaS) where** the usage of a digital interface to source and manage the provision of transport related services which meets mobility requirements of customers.
- v. **Energy Efficient Vehicle (EEV)** , an initiative currently developed by the Malaysia Automotive Institute (MAI) to support

environmentally friendly vehicles in reducing carbon emissions and use of fuel from non-renewable resources. In addition, Energy Efficient Vehicles (EEVs) incorporates the use of IoT to create smart, safe and connected vehicles. MAI aims to make a strong push for EEV by 2025. These EEVs include fuel efficient vehicles, hybrid electric vehicles (HEV) and alternatively-fuelled vehicles such as compressed natural gas, liquefied petroleum gas, biodiesel, ethanol, hydrogen and fuel cells. Needless to say, EEVs contribute to a stronger economy, a healthier environment, and decreases non-sustainable energy dependence.

Ladies and gentlemen,

## **CHALLENGES**

35. Implementing sustainable practices in Malaysia's construction industry requires significant investment costs. This financial constraint impedes implementation of new technological concepts, coupled with the lack of push factor in regulations and uncertainty in actual costs. Higher costs incurred for the import of green materials and technology also hinders the shift towards sustainability.

36. As such, there is also an urgent need to upskill the construction workforce to keep pace with the modernisation and efficiency gains in the construction industry and thereby attracting the younger generation thus reducing dependence on foreign labour.

37. Another challenge faced in the industry is keeping up with maintenance of roads due to our tropical weather consisting of heavy

rains and extreme heat. The differences in soil types and conditions also contribute to various issues which crops up regularly and therefore requires continuous effort by our agency, resulting in higher resources in the form of cost, time and energy to maintain our roads.

38. Although it is a monumental task to address each and every single concern on maintenance with our current budget, as the Minister of Works, I will always strive to address these issues and make it my utmost priority to ensure the safety and comfort of road users and our citizens as a whole. This is in line with the Ministry's second and third strategic thrusts to maintain roads and highways, and to enhance the construction industry based on a sustainable development basis.

Ladies and gentlemen,

### **THE WAY FORWARD**

39. Moving forward , the construction industry is growing rapidly and plays a vital role in the economic growth of our country. However, it can also generate implications to the environment if it is not regulated properly. Therefore, under the Construction Industry Transformation Program (CITP), the Ministry of Works and Construction Industry Development Board (CIDB) has developed initiatives such as Building Information Modelling (BIM) as mentioned earlier, which will help manage the life cycle of roads and construction projects; reduce the generation of on-site waste; develop competencies via the Centre of Excellence (CoE) and; develop Malaysian Standards for Construction Specification that includes green technology requirements.

40. To further the agenda of sustainable practices, I would like to encourage industry players to conduct proper planning and to reduce the impact of energy consumption by the construction industry in line with sustainable development practices. These holistic initiatives will forge a continuous way forward for the construction industry which I fervently believe will yield global social wellness for humanity.

## **CLOSING**

In closing, I would like to end my keynote address with a quote by Robert Kiyosaki, the author of “Rich Dad, Poor Dad”: “***Hoping drains your energy. Action creates energy*** “ which means that creating a sustainable world is no easy task. It requires dedication and commitment from all parties, may it be individuals, communities, industry players or the government. If we want to make the world a better place, we must not merely hope. We must work together, hand in hand, to sustain what we have for our future generations.

Thank you.