

## LEGAL ASPECTS OF AUTONOMOUS RAPID TRANSIT (ART)

Photo Source: [www.theborneopost.com/2023/03/16/sarawak-metro-art-to-be-delivered-to-kuching-by-middle-of-the-year/](http://www.theborneopost.com/2023/03/16/sarawak-metro-art-to-be-delivered-to-kuching-by-middle-of-the-year/)

### **Introduction**

In the bustling landscapes of modern cities, the quest for efficient, sustainable, and reliable transportation solutions has become paramount. The demand for seamless mobility options has soared due to population growth and economic development and Malaysia is no exception to this trend. The development of public transportation has been rapidly progressing in Malaysia, evidenced by projects such as the current development of LRT3 and the MRT Circle Line, which are set to be launched in 2028.

However, the cost of building these systems does not come cheap, taking into account the cost of building the infrastructure and various land arrangements with all relevant parties surrounding the proposed stations. As such, cities outside the Klang Valley would face significant financial challenges in developing similar train systems like those in the Klang Valley. In view of such exorbitant costs, Sarawak has taken a more cost-efficient initiative to cater to the transportation needs of the growing population of Kuching through the implementation of the Autonomous Rapid Transit ("**ART**").

### **What is ART?**

The ART is a groundbreaking transportation project developed by China's state-owned railway firm CRRC Corporation Limited, which represents an urban transportation system that diverges from traditional public transportations such as trains and buses.[1] Instead of running on traditional railway tracks, it operates on designated lanes marked with double-dashed white lines, utilising rubber wheels for locomotion.[2]

Notably, ART is characterised by its autonomous driving capability and eliminating the need for human operators. Moreover, it also boasts eco-friendly features such as the generation of lower levels of noise and carbon emissions compared to conventional petrol vehicles. Further,

the ART can be considered as an electric vehicle as it fully relies on electric traction powered by batteries, which can be swiftly recharged at stations within approximately thirty (30) seconds for the subsequent journey, or alternatively, undergo a ten (10) minute recharge at the terminus.[3]

With a maximum speed of seventy kilometre per hour (70 km/h), ART vehicles can accommodate approximately three hundred (300) to five hundred (500) passengers across three (3) to five (5) carriages in a single trip.

## **ART in Sarawak**

The plans of implementing a better public transportation in Kuching, Sarawak have always been in the pipeline for the Sarawak State Government as issues in relation to traffic congestion in Kuching has always been a cause for concern. Moving forward, in order for Kuching to be developed as a green city with sustainable Environmental, Social and Governance ("**ESG**") initiatives, the Sarawak State Government has decided to implement an efficient and sustainable public transportation system that can cater the demands and needs of the citizens of the city.

This is in line with the statement of the Premier of Sarawak, Datuk Patinggi Tan Sri Abang Johari Tun Openg ("**Abang Johari**") during the ASEAN Education Cities Conference ("**AECC**") 2023 where he stated that *"To achieve this goal, we are implementing a range of sustainable urban development practices, including energy-efficient buildings, sustainable transportation systems, and green space development"*. [4]

Contrary to the usual ART which is powered by electricity, Sarawak's ART is powered by hydrogen and it can travel approximately two hundred forty-five (245) kilometres per single charge. [5]

As reported by The Star in September 2023, thirty-eight (38) trams will be delivered from China in batches over the coming two (2) years, while roads are refigured to separate the trams from regular vehicles. [6] As a result, the people of Kuching will benefit from this new transportation service, which provides a seamless mode of transportation from one place to another while simultaneously solving traffic issues.

This also helps from the perspective of tourism as the stations are located nearby the attractions in Kuching. Besides, Abang Johari asserted that the introduction of ART in Kuching will reduce the carbon footprint in Kuching City by fifteen percent (15%) by the year 2030. [7]

## **Legal Aspects in relation to the Implementation of ART in Peninsular Malaysia**

From the legal perspective, there are currently no specific laws that govern autonomous vehicles including the ART, save and except for the Road Transport Act 1987 and Guideline

for Public Road Trials of Autonomous Vehicles.

The increase of Malaysia's interest in autonomous driving is evident with the establishment of this guideline which acts as a guidance to organisations intending to conduct trials of automated vehicles. It is important to note that this guideline does not supersede existing regulations, road transport rules, and statutory standards outlined in the Road Transport Act 1987 and this includes the requirement for a fit and proper person to handle such vehicles.[8]

This necessity became evident during a notable incident in Malaysia, where a Singaporean couple was apprehended for utilising autonomous driving from Singapore to Penang, Malaysia. Superintendent Dr. Bakri Zainal Abidin, the chief assistant director of Bukit Aman Traffic Investigations and Enforcement, emphasised the need for a driver in a vehicle and initiated an investigation into the actions of the Singaporean couple.[9] Given the aforementioned incident, it is apparent why ART still requires human intervention in Malaysia, despite the vehicle's capabilities of self-driving.

Nevertheless, with the establishment of the said guideline, this would be the milestone towards autonomous driving vehicles in Malaysia. Surely, the acceptance of autonomous driving will increase over the years following the rapid development of this technology, which will offer better safety and system efficiency.

The adaptation of ART in Malaysia can benefit in many aspects including reducing the carbon emission in Malaysia. The use of electricity or hydrogen screams clean energy and aligns with ESG principles. Furthermore, with the rising number of accidents on the road, autonomous driving holds the promise of preventing such accidents. Autonomous driving systems can reduce accidents caused by human error, which is a significant factor in road accidents as eighty percent (80%) of accidents on the road are caused by human error.[10] By employing technologies such as adaptive cruise control, lane-keeping assistance and collision avoidance systems, autonomous vehicles can potentially make Malaysian roads safer for both drivers and pedestrians. With the number of 598,635 road accidents occurred last year in Malaysia,[11] autonomous driving which include ART may be the solution and mitigation to this nationwide problem.

Furthermore, Sarawak's successful implementation of ART could serve as a model for other states in Peninsular/West Malaysia. The insufficient and inefficient public transportation systems in these areas could find solutions through the introduction of ART.

One obvious advantage is cost-effectiveness; while the development of the new LRT and MRT systems entails high costs, ART offers a more financially viable solution. Its departure from traditional rail tracks provides ART with the flexibility to be installed in various locations. It is good that there are States that will soon enough have the same system as Kuching, as Johor's new public transportation system – the Iskandar Malaysia Bus Rapid Transit (IMBRT) that was launched back in 2016 have implemented ART imported from China as a bus guide for their

system. However, the targeted stage-one operation rollout is expected by the third quarter of 2025.[12]

In addition, Perbadanan Putrajaya is currently conducting a trial run and study on the feasibility of implementing ART in Putrajaya until the end of this year.[13] Referring to the aforementioned, it shows that other States in Malaysia are able to implement this transportation system, subject to their trial run. Regardless, this positive trend if continued and extended to every main city in Malaysia, will totally contribute a significant percentage to the reduction of carbon footprint in Malaysia.

## **Conclusion**

In conclusion, Sarawak's adoption of the ART system signifies a significant advancement in Malaysia's quest for sustainable urban transportation. Powered by hydrogen and featuring autonomous driving capabilities, ART offers a cost-effective and environmentally friendly solution to address traffic congestion and reduce carbon emissions. While legal frameworks governing autonomous vehicles are still evolving, recent incidents emphasise the need for careful supervision during trials and operations.

Sarawak's success sets a precedent for other states and territories like Johor and Putrajaya, which are exploring similar systems to enhance their public transportation networks. If this positive trend continues, the widespread adoption of ART could significantly contribute to Malaysia's efforts to achieve sustainable urban development and reduce its carbon footprint.

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