

**POSITION PAPER ON
PROMOTING ACTIVE TRANSPORTATION
IN ACHIEVING LOW CARBON CITY**

**Highway & Transportation Technical Division (HTETD)
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INTRODUCTION

Active Transportation was less popular due to the following reasons:

Weather - The weather in Malaysia is hot and has frequent downpour of rain, which deters cyclist away.

Culture and habit - Walking and cycling are not habits inculcated since young

Facilities - Lack of pedestrian and bicycling facilities, for example, bicycle lane, bicycle parking facilities and others. However, this can be perceived as a chicken-and-egg problem whereby facilities are not built or provided due to lack of demand, whilst users claim that the lack of facilities have discouraged them from walking or cycling.

Planning and design - The roads and environment are not planned and designed to be inclusive of active transportation users.

Connectivity - There is lack of connectivity of active transportation facilities, for example, bicycle lane is planned only surrounding transit stations without connection to the nearby building or destinations. Likewise, footpaths and pedestrian crossings are also largely provided within the vicinity of transit stations and falls short of reaching towards a bigger catchment area.

BACKGROUND OF POSITION PAPER

Active transportation is referred to the movement of people or goods, through non-motorized modes, based around human physical activity. The well-known modes of active transportation are walking and cycling, although other modes such as jogging, scootering, roller skating, and skateboarding could be considered as active transportation modes as well. Promoting and engaging active transportation as a daily transportation mode not only brings benefit to the society but also to the economics and environment.

Although active transportation brings about various tangible benefits, its popularity in our country remains low.

The purpose of this position paper are:-

- 1) To enhance existing JKR's ATJ guideline for vulnerable road users, namely pedestrians and cyclists;
- 2) To explore the status of active transportation in the country;
- 3) To investigate the opportunities for improvement in active transportation.

EFFORTS IN ACTIVE TRANSPORTATION

Related existing guidelines in bicycle and pedestrian facilities provision.

1. *Arahan Teknik (Jalan) 10/86: A Guide on the Design of Cycle Track*

- Published by the Public Works Department
- Provides guidelines on how to design cycle track
- The guideline specifies in detail the elements of cycle lane design requirement which includes design speed, horizontal, vertical and cross-sectional elements

2. *PLANMalaysia (2013) Panduan Pelaksanaan Inisiatif Pembangunan Kejuranan Hijau. Penyediaan Laluan Basikal*

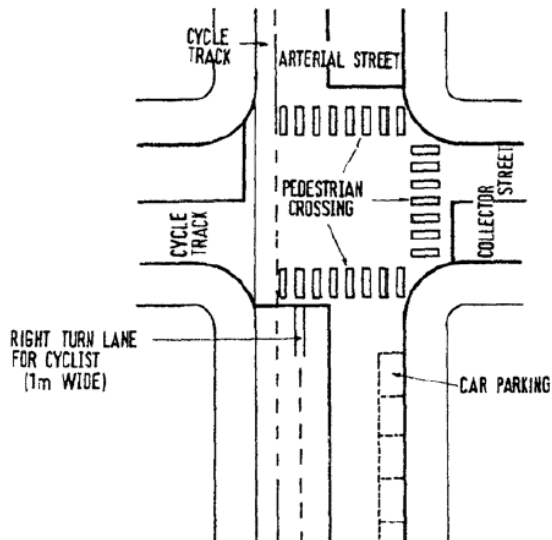
- The guideline provides some conceptual design to the bicycling-related facilities. It is comprehensive as it covers a wide variety of bicycling elements, such as bicycle lane, bicycle route planning, integration of bicycle lane with road network, integration of bicycle lane with transit station, and some recommendation on the implementation.

3. *Nota Teknik (Jalan) 18/97: Basic Guidelines on Pedestrian Facilities*

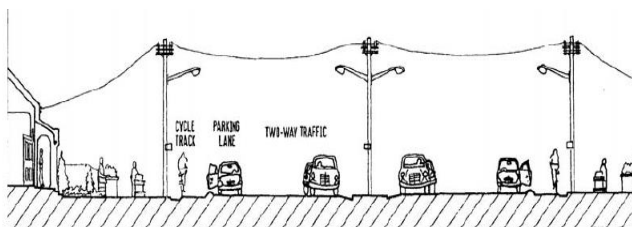
- To provide some conceptual design guidelines. The pedestrian facilities considered in the guidelines are crossing facilities, speed control, intersection treatment, and footpaths.

Malaysian Guidelines

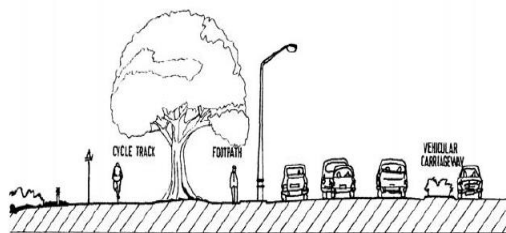
Arahan Teknik (Jalan) 10/86: A Guide on the Design of Cycle Track



Source: Arahan Teknik (Jalan) 10/86



a) RESTRICTED CYCLE



b) EXCLUSIVE CYCLE TRACK

Arahan Teknik (Jalan) 10/86 guidelines emphasizes on the design criteria of the cycling tracks, the following are the main ideas pointed out in the reference:

- The classification of cycling tracks into Restricted and Exclusive cycle tracks.
- Suggestions in limited manner solution to introduce cycling paths to the road network, branching into short- and long-term solutions.
- Discussion on the geometric design criteria used on Malaysia (speed, sight distance, alignments, etc.)
- Concern on the cyclist's safety.
- Brief intersection treatments.
- Provision of some figures demonstrating the expected layout.

Nota Teknik (Jalan) 18/97: Basic Guidelines on Pedestrian Facilities

Nota Teknik (Jalan) 18/97: Basic Guidelines on Pedestrian Facilities gives a brief introduction to the guidelines used in Malaysia, the following are the main ideas pointed out in the reference:

- The basic pedestrian facilities currently used in Malaysia (crossings and walk along road).
- The general factors to be considered (number and pedestrian need at a specific intersection, speed, volume, etc.).
- Limited treatments to enhance pedestrian ability to cross an intersection were mentioned (such as providing refuge islands, narrowing the vehicular roadway, and minimizing the speed).
- The three types of pedestrian crossings available in Malaysia (controlled, uncontrolled, and grade separated crossings).
- Brief design guidelines of walkways were introduced.

CASE STUDY

Guide to Road Design Part 6A Paths for Walking and Cycling, Austroads, Australia



Source: Queensland Department of Transport and Main Roads (n.d)



Source: Gary Veith (personal communication 2009)



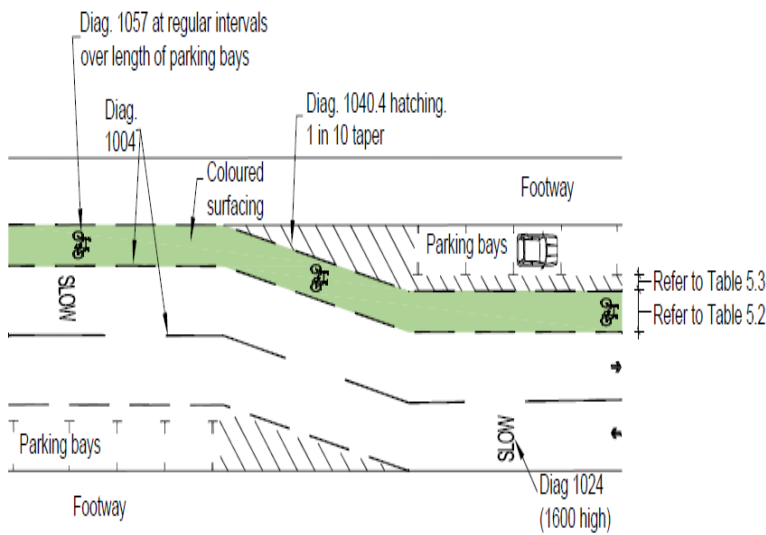
Source: ARRB Group (2009)

- Austroads discusses and tackles various conditions besides the design criteria. It starts with the needs of the cycling paths for the users. It shows the significance of encouraging the public to walk and cycle by providing adequate structures that contribute dramatically to act as motives that show active mode as a major medium of travel for short and medium trips. Some of these structures are shared cycling path under a bridge abutment, cycling underpasses, and cycling and wheeling ramps.
- Besides that, Austroads extensively assesses assorted intersection scenarios that regulate the traffic flows of motorized vehicles, cyclists, and pedestrians. Special treatments are mentioned for different conditions that might require a particular consideration in addition to the ancillary and control devices.

CASE STUDY

Cycling by Design 2010 - Scotland

- Cycling by Design emphasizes on the space allocation for the road users in general paying a good attention to the cyclists to have the safe environment they need to travel along private motorized traffic and public transportation such as trams and buses.
- The guidelines extensively show design guidelines for different scenarios of integrated, segregated, and shared paths considering safety as priority.
- Junction and cycling structures design are discussed in details with very informative illustrations which crystalize the road layout.
- Cycling by design affirms the significance of integrating the cycling facilities with the public transportation to encourage people to consider this mode in their daily travel.



Source: Cycle by Design (2010)



Source: Cycle by Design (2010)

Malaysian Guidelines

Suggestions on Enhancing the Malaysian Guidelines

Nota Teknik (Jalan) 18/97: Basic Guidelines on Pedestrian Facilities

It is advisable to include the following:

- ✓ Further description of the design criteria is needed.
- ✓ Treatments that suit Malaysian conditions. Whereas the mentioned treatments were adopted from foreign design guidelines.
- ✓ Illustrations of figures and tables according to the local needs and requirements are needed.
- ✓ Provision of strategies that encourage the public to depend on walking as mode of travel.
- ✓ Integration of pedestrian facilities with other motorized and non-motorized traffic.
- ✓ Introducing of pedestrian facilities to be accessible to public transportation facilities.
- ✓ Keeping pace of the trending transport media such as micro-mobility and adopting design criteria to suit them.

Arahan Teknik (Jalan) 10/86: A Guide on the Design of Cycle Track

It is advisable to include the following:

- ✓ Enhancement on the way of delivering the information to suit the public reader.
- ✓ Treatments for different case scenarios of interference with other traffic.
- ✓ Constructing of more informative topics related to cyclists' amenities.
- ✓ Provision of strategies that encourage the public to depend on cycling as mode of travel.
- ✓ Integration of cycling facilities with other motorized and non-motorized traffic.
- ✓ Provision of efficient cycling facilities that meet the cyclists desire of smooth experience (cycling bridges, cycling ramps and underpasses)
- ✓ Keeping pace of the trending transport media such as micro-mobility.
- ✓ Introducing of pedestrian facilities to be accessible to public transportation facilities.

Malaysia potential cycling and walking motives

- **Young Population**
Almost 69.7 percent of the total Malaysian population falls in the working age range (15-65 years)
- **Available possibility of connectivity**
The Malaysian public transportation system covers large areas, which is encouraging to cycle to public transportation
- **Tourism Destinations**
Malaysia is a well-known destination to many tourism attractions, availability of proper cycling and walking facilities gives a better exposure and experience to visitors.

SUGGESTION & WAY FORWARD

1. **Guideline Improvement** - The current guidelines need to be improved to provide a more comprehensive coverage in the design elements and safety parameters, and more in-depth details of design principles for these elements.
2. **Connectivity is the key** - Design for bicycle and pedestrian walkway network must be integrated.
3. **Create bicycling and walking friendly environment** - Improve the facilities by planting leafy trees along the bicycle lane/route, or provision of covered walkways.
4. **5km New Township** - The threshold of cycle-able distance is about 5 km, while walkable distance is about 1km
5. **Encourage travel behavioral change** - Relevant strategies are needed to encourage people to use active transportation modes, especially for short trips