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Providing Accessible Transportation for Persons with Disabilities in Malaysia

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Abstract

In Malaysia, transport providers need to comply with the Persons with Disabilities Act 2008. Recognizing that the problem of accessibility requires the solutions from the services, providing amenities and facilities aspects, the author who is a physically disabled person, conducted a participant observation method in order to propose a guideline for a Standard Operating Procedures (SOP) and good practice. The study findings showed the need to integrate services provision with Universal Design access features in order to achieve a more comprehensive and full accessible transportation. Upgrading the public transportation services need to also include training of platform and station staff on how to handle persons with disabilities needs by undergoing awareness training with Disability Equality Training (DET) and Disability-Related Service Training (DRST). Planning and implementation stages currently embarked by SPAD (the Malay acronym for Land and Public Transport Commission) on important national projects will benefit from the guideline. The paper discusses an overview of important factors to consider in providing for accessible transportation. The main objective is to outline what constitutes the important factors in the guideline for Universal Design access features such as routes, entrances, toilets, emergency exits and wayfinding, and services provision such as customer assistance, guides and assistive devices.

Keywords: accessibility, accessible transportation, awareness training

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INTRODUCTION

As human populations become increasingly urbanized providing access and accessibility thus becomes a major objective, and many countries now have legal provisions to achieve this objective. In Malaysia, the Persons with Disabilities Act came into effect about five years ago in 2008. This Act can be seen as an essential part of Malaysia’s efforts to meet sustainable development requirements, which are environmental protection, economic prosperity and social equity. As Malaysia prepares itself to be a developed nation by as early as 2020, many sectors, including the transportation sector, have to be revised or revamped. This situation can be both a challenge and an opportunity to improve the current physical conditions and/or services that may not be disabled-friendly.

In this paper, we will show briefly how the transportation sector shall abide by the PWD Act 2008 and discusses an overview of important factors to consider in providing for accessible transportation. Based on a study made by the author using the participant observation method, important factors that needed to be considered either in the design or services provisions were found to be necessary to be addressed in order to achieve full accessible transportation. In doing so, we will explain the challenges and opportunities that lie ahead in this process. We hope that many people will benefit from the information and insights that we offer herein as there is an inherent lack of literature on the subject matter.

The PWD Act 2008 and the Transportation Sector

For the transportation sector, Clause 27 of Part IV of the PWD Act 2008 is the most pertinent:

27. Access to public transport facilities

(1) Persons with disabilities shall have the right to access to and use of public transport facilities, amenities and services open or provided to the public on equal basis with persons without disabilities.

(2) For the purposes of subsection (1), the Government and the providers of such public transport facilities, amenities and services shall give appropriate consideration and take necessary measures to ensure that such facilities, amenities and services
conform to universal design in order to facilitate their access and use by persons with disabilities.

We highlight here three terms in the Clause, as follows:

1. **Facilities** are physical things created to serve particular functions.

2. **Amenities** are physical things that contribute to physical or material comfort.

3. **Services** are assistance given to someone in need.

Clearly, transport providers are responsible for providing the physical environment (facilities and amenities) and the human services that comply with accessibility principles. In the case of PWD Act 2008, the accessibility principles follow those of **Universal Design**\(^\text{16}\), which means the design of products, environments, programs and services to be usable by all persons, to the greatest extent possible, without the need for adaptation or specialized design and shall include assistive devices for particular groups of persons with disabilities where this is needed.

Transportation includes the use of vehicles, the use of the street environment and the use of buildings. Jurisdiction and management of the different areas vary and does not come under the purview of a single organization or agency. For example, the streets, pavements, bus stops and pedestrian crossings are planned, designed and implemented by different agencies, some in the public sector and some in the private sector. Many parts of the built environment are under the responsibility of the local authorities’ different departments, such as land transport, landscape and highway department. The licensing of vehicles is under the purview of SPAD (the Malay acronym for Land and Development Agency) of the Ministry of Housing and Local Government.

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\(^{16}\) Universal Design, originally a term expounded by The Center for Universal Design at North Carolina State University, comprises of seven principles as follows: (1) Equitable use; (2) Flexibility in use; (3) Simple and intuitive; (4) Perceptible information; (5) Tolerance for error; (6) Low physical effort; and (7) Size and space for approach and use. Before Universal Design, the terms usually used are Barrier-Free Design and Accessible Design, where the three factors of (1) Accessibility; (2) Usability; and (3) Safety are emphasized, especially to define the former.
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Public Transport Commission) in Malaysia, in recent years, since the formation of SPAD, there is an effort to integrate the responsibilities in order to rationalize and provide a smoother operation.

**Figure 1** The three different aspects of transportation.

In a transportation hub, there are important facilities and amenities for the use of persons with disabilities such as sensory information, braille and large print guides, hearing augmentation and induction loops, manual wheelchair, portable ramp, accessible parking spaces, accessible toilet etc. For a full list of (in) accessible facilities and amenities, we direct the readers to published articles such as Yaacob and Hashim (2007; 2009) and Yaacob et al. (2009). These facilities need to be properly designed, constructed and installed as well as maintained by the transport providers. On top of that, persons with disabilities may also require customer service assistance to use these features etc.

Good services can only come from personnel who are properly trained, therefore, the services provision must include Training for Staff by using the Disability Equality Training (DET) and Disability-Related Service Training (DRST) where in Malaysia, some agencies have started such courses. DET promotes the understanding of disability issues and barriers faced by persons with disabilities. The training encourages proactive and holistic resolutions to these issues. DRST equips frontline service staff with skills to interact and provide assistance to persons with disabilities. A proper training with DET and DRST will ensure that the staff can assist a person with disability by using the correct methods and terminologies. For example, customer service counter staff should have knowledge of basic sign language to assist deaf persons who need information or have problems while using the facilities at the stations.
Overview of the use of transportation facilities

Firstly, when a person with disability (PWD) who is a customer approaches a transportation station, the customer shall be able to have access service assistance and counter services. The PWD may need to inform the station’s platform staff where he wishes to go and if assistance is needed a staff will accompany and assist him onto the platform and wait for the arrival of the train. The staff will inform the staff of the other transit stops and final destination to provide assistance to the PWD to disembark and board the train coaches. At the first point of arrival for the PWD, the staff at this station will inform all the other transit stops and final destination station staff of the PWD’s intended journey so that assistance can be provided every part of the way.

Bear in mind that services can also be made with the help of technology. For example, at unmanned stations, or stations that operate beyond staff working hours, an intercom and CCTV system linked to another manned station nearby should be installed beside the turnstile for PWD to request for assistance when needed. The turnstile should also be able to be remotely controlled by the manned station.

Monitoring of services, amenities and facilities maintenance should be done by providing complaint forms to the user. The communication system dealing with complaints such as telephone or e-helpline. All complaints must be acknowledged and processed quickly, and resolutions must be transparent and made available to the complainant.

There should also be an Online Access Guide and an Online Journey Planner that allows a PWD to plan journeys, find routes and identify vehicles, stations or terminals that are accessible, such as the availability of lifts and other accessible features. The access guide should be able to inform the PWD on the availability of access features in a transportation hub or station e.g. ramps and low floor buses.

Finally, we make mention of a unique feature, i.e. assistance dog. In general, dogs are deemed ‘unclean’ by Muslims in Malaysia. However, in some countries, the position was softened because guide dogs could be classed in the “working dogs” category. In the
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U.K., for example, a blind Muslim was granted a special rest area for his guide dog within the mosque compound where he went to perform his prayers. Guide dogs are practical and helpful for blind persons in traveling around independently. The guide dog is not a playful animal that gets distracted easily by other persons or things around it. The dog is well trained to assist the blind person in his journeys. Transport providers should indicate on their website and terminal entrances whether guide dogs are accepted.

Here we would stress that clear instructions in the services are always better for effective communication between the users and transportation providers.

Universal Design access features and services provision

Based on a consultation paper (Yaacob, 2011) to assist the Ministry of Transport, Malaysia, the proposal underlines the importance of addressing both planning and design aspects with services and operations, as essentially transportation is not just a building or a street or a vehicle but an integrated and complicated system of different entities.

The factors are listed under two different sections:

1. Services provision, 2. Universal Design Access features.

The Services provision will cover those sections that are essential in providing accessibility to PWD such as: customer service assistance and counter services, sensory information, Braille and large print guides, hearing augmentation and induction loops, manual wheelchair availability and portable ramp, assistance dog and, access guide.

The Universal Design Access features consist of eleven categories such as, parking, approach and entry, entrance, toilet, emergency exits, ramps, stairs, wayfinding / signages and, other features. We shall address in detail the services and access features in the following paragraphs.

Customer service assistance and counter services are the first thing that a PWD need to start when planning for a journey. In the first instance, the thought to travel would either begin by reading online travel websites, by using audio communication or text. The PWD usually would need to find out whether a facility is accessible,
where the service is located, who to call to assist, when should they call to find the information, to make a booking or purchasing tickets for travel. Thus customer service assistance may be in-situ at the point of travel at transportation hubs, terminals and stations, bus stops or be available before they leave their homes.

Counter services, which is the information counter visible to the public when they arrive at the transportation hub, services the public and specifically be able to provide information and assistance for the PwDin making inquiries and asking for assistance. In figure 2, the station staff is delegated by the person manning the counter service to assist a PwDfrom the counter to the station platform and thus the assistant would need to be able to operate facilities such as platform lifts.

**Figure 2** A station staff operating an inclined platform lift at a Tokyo railway station (source: author).
Counter services include services where a PwD may make a request while purchasing a train ticket, the whole journey that the person will undertake is recorded by the staff at the counter and all station masters, including transit and destination, along the intended journey will be contacted to make sure that the PwD will be assisted for embarking and disembarking. In figure 3, the systematic way on how the assistance is being made showed meticulous training had been done in order to assist the PwD to get on board as last as possible and not to delay the train schedule at the same time.

**Sensory information** is to be made available to those with sensory impairments. In figure 4, the strategic placement of tactile guide maps for blind persons assist the person to find out information, such as the location of platforms, amenities such as toilets, lifts and shops, the distance of travel and direction to reach these places. The blind person uses the sense of touch or tactility to read the Braille letterings, embossed signs and letterings. ‘Orientation’ is the most essential principle for a blind person to navigate and tactile information placed at strategic places ease the passage to arrive at his destination.

**Figure 3** Station’s platform staff and another person putting on the portable ramp at a Tokyo railway station (Source: author).

**Figure 4** A blind person reading (with his fingers) information from the tactile guide map such as Braille and embossed markings or letterings at a Tokyo railway station (Source: author).
For deaf persons whose sensory impairment would require them to use visual cues, apart from having sign language interpreters at the counter services, the **LCD information boards** placed at strategic parts of the transportation hub would greatly assist, when immediate information is needed regarding an announcement, especially if there is a train delay or emergency announcement. Figure 5 shows an example of an information board that is located at the entrance of the station.

![Figure 5](image)

**Figure 5** A digital information board that informs readable messages which is crucial for deaf persons in emergencies and when there are delays (Source: author).

**Braille and large print guides** in a booklet form, for example in Japan, is called a "Communication Board", which are available to be used at the counters. The booklet can assist persons who will have difficulties to communicate in the language or some intellectual disability or young children's needs. The guides, such as the example shown in figure 6 would have letterings in English, Mandarin, Korean and pictograms that clearly could be pointed by the user to the station staff giving ease in getting a request or obtaining information immediately.
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Figure 6 An example of what is inside the “Communication Board” booklet (Source: author).

The use of electronic devices such as the provision of hearing augmentation and induction loops at transportation hubs that uses the PA system for example would assist persons with hearing impairments, who could use their hearing aids, to hear the announcement more clearly. In figure 7, the sign at the counter shows the availability of induction loops, where the customer can operate his hearing aid to the desired level to hear the announcements.

Figure 7 The graphic symbol for induction loops system at the reception counter to inform those persons who wish to use that hearing induction loops. (Source: www.digitalhearingcare.org.uk)
The availability of **manual wheelchairs** for use in the vicinity and **portable ramp** with assistance by the station staff need to be known by the public by reading such information at strategic places such as at the entrance. Along with these equipment, Figure 8 shows a telephone directory facility to be used for connection to the information counter that could assist a blind person to call for assistance, where a tactile guide tile would lead him there from outside.

![Figure 8 An area for PwD to request for services to assist them into and around the building (Source: author).](image)

Public places, especially transportation hubs should welcome **assistance dog** or **guide dogs** at their premises or vehicles. Guide dogs are essential for blind persons’ safety, and it has been proven that many accidents that blind persons experience would have been avoided if there had been a guide dog traveling with them. A guide dog is not an ordinary dog which is like a pet for their owner. A guide dog must be well trained and be disciplined to assist the blind person. People are not encouraged to play and pet a guide dog especially when they are doing work to assist the blind person. Figure 9 shows how the guide dog is leashed when traveling with the blind person who is also using a white cane to detect and anticipate problems ahead.
An access guide is a general term to describe information available online or published in text or Braille that could assist PwDs in finding about facilities available in transportation hubs, on the streets and vehicles, such as whether there is an accessible toilet, in order for them to plan their journey in order to have ease in travel and to anticipate the difficulties to be encountered. Figure 10 below shows the availability of ramps in buses which should be known to the disabled traveler from the bus companies’ website. For example, what routes and which bus stops or stations provide accessible facilities and access features that would make traveling smoother and more manageable. The access guides should be furnished with maps to indicate these facilities and features.
Access features that are essentially good design incorporates at least two or more principles of Universal Design (UD). The needs of many diverse groups including children, pregnant women, parents with small children, apart from PWDs ranging from vision impaired persons, deaf persons, hearing impaired persons, wheelchair users, mobility impaired persons, intellectually PwDs and elderly persons, would require much empathy and understanding from the designer in order to satisfy all the users' needs.

Standards that are shown as best practice examples for designers and are adopted by enforcing agencies into operating procedures and guidelines or mode into regulations and codes of practices are to be complied, is increasingly being practiced. More local authorities would insist on the standards to be followed, if not the owner will be dealt with a penalty. In Malaysia the Uniform Building By-law 34A with the codes of practice, can be used by the local authorities to this effect. The standard for accessible parking is shown in figure 11, where the importance of providing enough space to transfer the wheelchair user is emphasized when the need to have 1200 mm aisle at the side is indicated.

**Figure 11** Diagram on the dimensions needed to be provided for parking for PwDs
(Source: www.jicofriends.jp).

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When a PwD approach and enter a gated entrance to a transportation hub, the signage to indicate the **approach and entry** should be easily read as in figure 12, where it is easily perceived. The UD principle of "perceptible information" is realized by the correct use of pictogram and colour contrast used.

![Figure 12](www.shutterstock.com) Sign to be placed in a strategic point of entry clearly indicating the direction where to find accessible parking for PwDs (Source: www.shutterstock.com)

The **entrance** of the building should be easily recognisable as in figure 13 where again the 'perceptible information' principle is being used with clear indication using colour contrast and signs to inform the PwD where to enter.

![Figure 13](www.shutterstock.com) The entrance of the building. the sign of the lift should be well placed easy to be identified so that PwDs can find them even from the road (Source: author).
The design of an accessible public toilet to accommodate the highest percentage of users, such as whether the size of the toilet is big enough, the equipment is complete and well placed for all users, usable and reachable and the floor surface is dry and not slippery makes a toilet design to be very complicated. Figure 14 shows a good example of the complicatedness of designing a toilet to allow a high percentage of accommodation thus fulfilling at least three UD principles of ‘equitable use’, ‘low tolerance error’ and ‘size and approach’.

Figure 14 Toilet for PwDs in Japan that is fully equipped to cater for different type of disabilities (Source: author).

Emergency exits are just as important as the entrance where in the case of an emergency such as escape from fire, the PwD should be able to know the escape routes and refuge spaces when the emergency happens. There should be an evacuation plan for PwDs and this plan is informed to them when they enter the premises as shown in figure 15.

![Sign](image.png)

Figure 15 Sign that informs PwDs that there is an evacuation plan for them in the building placed at the entrance and strategic areas (Source: www.directa.co.uk).
Ramps should be available at the main entrance especially when there is a change of levels and the position should be as close to the main door as possible as shown in figure 16.

![Ramp at the main entrance of a building in Tokyo](image1.jpg)

**Figure 16** Ramp at the main entrance of a building in Tokyo (Source: Author)

Staircases especially where it is a protected fire stair used during an emergency for exit should be furnished with all access features such as hand rails, tactile guide tiles for warning at the change of levels with clear signs and directional indications such as shown in figure 17.

![Fire escape staircase protected lobby with a fire protected door with clear signage and symbol indicating the escape route during an emergency with enough refuge space for a few PwDs](image2.jpg)

**Figure 17** Fire escape staircase protected lobby with a fire protected door with clear signage and symbol indicating the escape route during an emergency with enough refuge space for a few PwDs (Source: Author)

Wayfinding and signages are essential part of UD access features where crowded in public areas such as train station platforms the
signs should be well placed and clearly readable as in figure 18 where the signs are lighted from inside even during the night to provide for maximum colour contrast. Signs like this are important to inform the passengers disembarking from the train, with 'perceptible information' that is a clear guide. The importance of the signs is purely for safety reasons and the optimum design is imperative.

Figure 18 An example of a signboard that uses a light box where the white and it background contrasted with the block graphic symbol and letterings which is the best example to allow people to read (Source: author).

Other important features are seating for PwDs as there is limited strength to walk in long distances and provide relief before embarking further in their journeys such as shown in figure 19.

Figure 19 shows street furniture such as proper benches with arm rests for those with mobility problems in Tokyo (Source: author).
CONCLUSION

The challenges and opportunities for the transport providers are immense in order to create the basis for a transportation system that will be used and enjoyed by all.

Compliance with the Persons with Disabilities Act 2008 has been propagated by the Ministry of Transport in the DET training sessions held from 2012 to 2013 for transportation providers and agencies such as local authorities and SPAD, and transportation companies are going through a tremendous learning curve to listen to the complaints and advice by PwDs and other users to have the facilities incorporated with Universal Design access features.

Problems on accessibility cannot be solved by design alone and the complicatedness of transportation where there are three aspects of buildings, street environment and transport vehicles make it a complex issue. There is a need for agencies to come together to provide for a consistent standard of design and services and operations that would be seamless for the user in terms of its use.

Planning and implementation stages currently embarked by SPAD need to integrate Universal Design access features in order to provide for international standards. The problem of accessibility requires the solutions from the services, providing amenities and facilities aspects, the Standard Operating Procedures (SOP) and practice resulting in the need to integrate services provision with Universal Design access features. This means that operations should include guidelines on how to deal with disabled passengers and travelers who would need to use the facilities like everyone else.

Upgrading the public transportation services shall include training of staff on how to handle PwDs needs by undergoing awareness training with Disability Equality Training (DET) and Disability-Related Service Training (DRST) as this will provide a long term solution to enable Malaysia to boast a world-class service to be comparable to anywhere in the world.
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Article in journal
