

RECOMMENDATIONS ON RULES AND CODE OF CONDUCT FOR CYCLING AND THE USE OF PERSONAL MOBILITY DEVICES

Recommendations by the Active Mobility Advisory Panel
Submitted to Coordinating Minister for Infrastructure, and Minister for
Transport, Mr Khaw Boon Wan on 17 March 2016

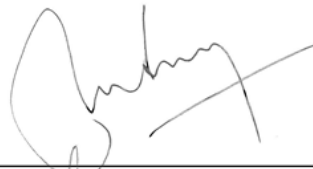


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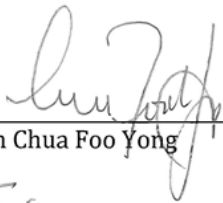
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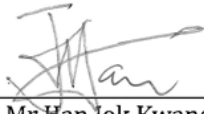
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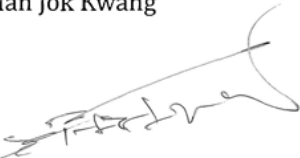
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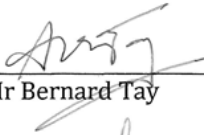
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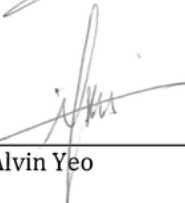
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EXECUTIVE SUMMARY

1. In a small and dense city like Singapore, walking, cycling and using personal mobility devices (PMDs)¹ are viable alternatives to driving, especially for short trips within residential towns, and first- and last-mile connections to public transport. “Active Mobility” contributes to a more livable, pleasant and sustainable urban environment. However, as cycling and personal mobility devices become more popular, there will also be greater contest for space amongst different user groups.
2. The Active Mobility Advisory Panel, comprising representatives from all key stakeholder groups, was set up to develop a clear set of rules and code of conduct, so that common spaces like footpaths and cycling paths can be shared safely and harmoniously. An extensive public consultation exercise was conducted to guide the Panel in its recommendations. This consisted of in-depth interviews, focus group discussions and public surveys.
3. The public consultation exercise revealed that there was a general openness to sharing paths if cyclists and PMD users behaved in a safe and considerate manner:
 - a. 2 in 3 respondents were open to sharing footpaths with non-motorised bicycles and non-motorised PMDs, and half were open to sharing footpaths with electric bicycles and motorised PMDs; and
 - b. About 7 in 10 were open to sharing cycling paths and shared paths with electric bicycles and motorised PMDs.
4. During the focus group discussions, a recurring theme was that it was more important to ensure that cyclists and users of PMDs behave in a safe and considerate manner, than regulating where bicycles and PMDs can or cannot be used. Recognising this, the Panel recommends a set of rules for cyclists and PMD users to ensure safe and considerate behavior on paths and roads. The key rules are:
 - a. For footpaths - personal mobility aids², bicycles and PMDs are allowed to be used, but at a speed limit of 15km/h
 - b. For cycling and shared paths (such as Park Connector Networks) - personal mobility aids, bicycles, PMDs and electric bicycles are allowed to be used, but at a speed limit of 25km/h
 - c. On roads, only bicycles and electric bicycles are allowed
5. In addition, the Panel also recommends a code of conduct to guide cyclists and PMD users on how to share paths safely. Key guidelines in the code of conduct include always giving way to pedestrians on footpaths and shared paths; slowing down and

¹ Examples of personal mobility devices include kick-scooters, electric scooters, electric unicycles and electric hoverboards.

² Personal mobility aids refer to devices that are meant to provide mobility to people who are less mobile, such as motorised wheelchairs for the elderly or physically disabled.

being prepared to stop when approaching high pedestrian-traffic areas such as bus stops; and always stopping and looking out for traffic before crossing pedestrian crossings at walking speed.

6. While the Panel supports allowing bicycles and PMDs on all paths, we recommend setting maximum weight, size and speed limits on all bicycles and PMDs to further enhance safety for pedestrians. Specifically, all bicycles and PMDs used on public paths and roads must not weigh more than 20kg, must not exceed 700mm in width and must not have a maximum device speed exceeding 25km/h (if they are motorised).
7. A strong feedback from focus-group discussions concerns the prevalence of and danger posed by illegally-modified electric bicycles. The Panel thus, recommends that the Government consider registering electric bicycles to facilitate identification of and enforcement against errant riders, such as those who illegally modify their electric bicycles.
8. Last but not least, the Panel recommends that the Government complement the above rules and code of conduct with stronger public education and enforcement efforts to raise public awareness on safety and ensure adherence to rules. The Government should also continue to build dedicated cycling paths to further reduce conflict and improve safety.

Section 1

Background

Current Landscape

A multi-modal transport system can support a more livable, pleasant and sustainable urban environment for Singaporeans to enjoy a higher quality of life. For a small and dense city-state like Singapore, walking, cycling and the use of personal mobility devices (PMDs) are good alternatives to driving, especially for short trips and first- and last-mile connections to public transport.

In recent years, more people in Singapore are cycling and using personal mobility devices (PMDs) as a mode of commute.



People use bicycles and PMDs for all sorts of trips, for example, picking children up from school or buying groceries from the market



Photo source: The Straits Times

Personal mobility aids such as mobility scooters are also popular amongst the elderly and those who are less mobile.

With the growing popularity of cycling and personal mobility devices, our footpaths and roads are getting increasingly crowded, contributing to conflicts between cyclists, pedestrians, PMD users and motorists.

While the Government is building more dedicated cycling paths and pedestrian walkways, with our land constraints, it is not possible to build cycling paths everywhere. There will invariably be places where footpaths will have to be shared by various users.

The Active Mobility Advisory Panel

In July 2015, the Government commissioned the Active Mobility Advisory Panel to consult the public and develop a clear set of rules and code of conduct, so that footpaths, shared paths and cycling paths can be shared and used safely and harmoniously by different user groups.

The Panel is led by Parliamentary Secretary Associate Professor Muhammad Faishal Ibrahim, and comprises 14 members representing the key stakeholder groups, such as seniors, youth, grassroots leaders, cyclists, motorists and users of personal mobility devices. (Please refer to [Annex A](#) for more information on the Panel members).



Active Mobility Advisory Panel members at the launch of the public consultation exercise at the Singapore Road Safety Park

Rules and Code of Conduct must ensure Safety, and be Simple and Balanced

In formulating its recommendations, the Panel is guided by three key principles:

First, safety is the key priority

Safety for all is paramount. If used irresponsibly, a bicycle or PMD can cause injury to its user and others. The Panel placed great emphasis on the safety of the more vulnerable in its deliberations.

Second, rules must be simple and clear

Currently, the rules governing the use of bicycles and personal mobility devices are complicated and unintuitive. Bicycles and PMDs are not allowed on footpaths. Bicycles are allowed on cycling paths and shared paths while PMDs are not. Bicycles and electric bicycles are allowed on roads, but PMDs are not. Many people are unaware or unsure of these rules. Oftentimes, those who are aware still choose to cycle or ride on footpaths because it is safer than using the roads. This results in greater uncertainty about what is allowed.

Hence, the revised rules and code of conduct should be simple and clear, so that people are able to remember and follow them easily.

Third, rules and code of conduct must strike a good balance between the competing needs of different users

The use of public spaces is an integral part of everyone's lives. In coming up with the recommended rules and code of conduct, the Panel will balance the needs of different users. Eventually, we hope to develop a culture where it is second nature for everyone to share paths in a responsible, considerate and gracious manner.

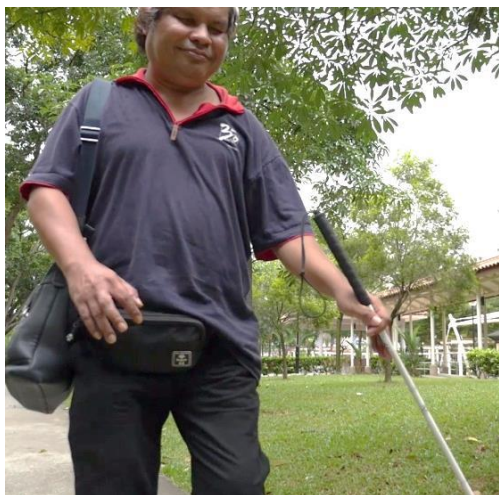
Public Consultation Process and Findings

To ensure that the needs and perspectives of all stakeholders are taken into account, we carried out a nation-wide public consultation exercise to gather views from different stakeholder groups on how public spaces, such as footpaths and cycling paths, can be used safely.

Through in-depth interviews, surveys and Focus Group Discussions (FGDs), the Panel gathered both quantitative and qualitative insights to develop the recommendations.

A. In-depth Interviews

As part of the public consultation, people from all walks of life were interviewed. They candidly shared their experiences interacting with fellow commuters, and their aspirations for the future mobility landscape of Singapore. These insights helped the Panel better understand the needs, beliefs and motivations of Singaporeans when it comes to commuting.



"I was walking along quite a crowded pavement in town, and one of the pedestrians kicked my cane, and he was angry. He said "if you can't see, then why are you walking around?" If you think to yourself everybody also needs to go to somewhere like me, then we will exist harmoniously. The country belongs to all of us, it doesn't belong to any special group."

- Jaffa, visually impaired pedestrian



"Once I get out of the park connectors, it is a maze out there. Sometimes I just have to go to the pavement to feel safe and actually reach work without killing myself."

- Valerie, cycles to work regularly



"Using the e-scooter is a way we choose to commute from place to place without actually hopping onto the car. A city that promotes active mobility is green, it's healthy, it's kind and it's sustainable."

- Luanne, uses different modes to travel

"If I had to give someone else advice, I would say be patient and you can win their hearts... it takes two hands to clap. We have created a culture here, but it took 10 years."

- Steven Yeo, Tampines Cycling Warden Chief.
(Tampines is Singapore's first cycling town, where cycling is allowed on footpaths.)

B. Public Survey

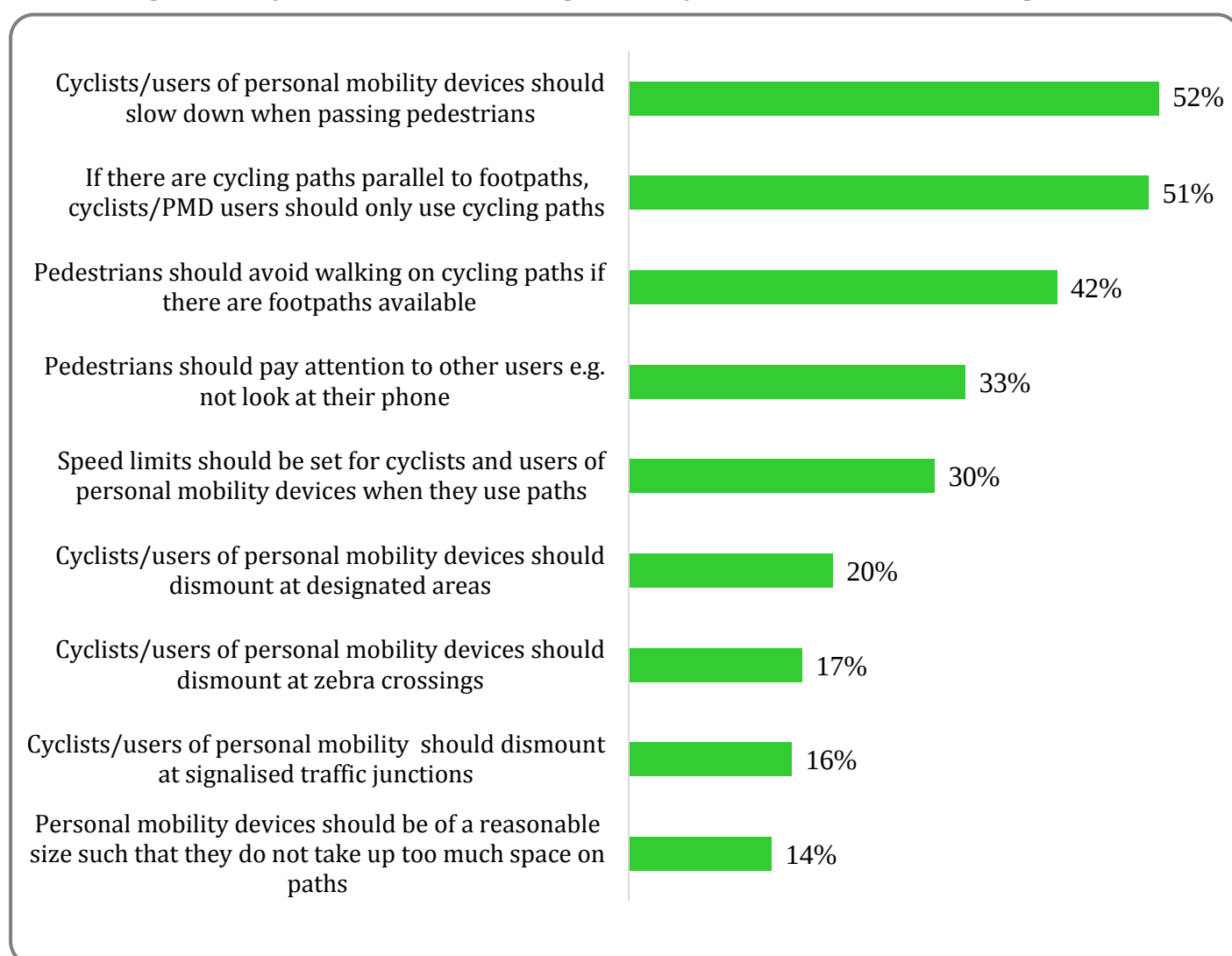
The Panel also considered the results of an online survey conducted by the Land Transport Authority from 30 July to 31 August 2015. The survey received more than 5,000 responses³ from a diverse group of respondents which included pedestrians, cyclists, users of personal mobility devices and motorists.

There was a general openness to sharing paths, if everyone behaved in a safe and considerate manner

Respondents indicated that they expected faster-moving devices to give way to slower-moving pedestrians, and also for users to keep to their respective designated paths. Respondents also felt that pedestrians had to play their part by paying attention to their surroundings (See [Figure 1](#)).

³ The same survey was also conducted with a 1,000 representative sample and the findings mostly validated the public survey findings.

Figure 1: Key behaviours which respondents feel should be observed on paths



Other key findings are:

- 2 in 3 of the respondents were open to sharing footpaths with non-motorised bicycles and non-motorised PMDs (see [Figure 2](#))
- About half of the respondents were open to sharing footpaths with electric bicycles and motorised PMDs (See [Figure 3](#))
- About 7 in 10 were open to sharing cycling paths and shared paths with electric bicycles and motorised PMDs (See [Figure 4](#))

Figure 2
2 in 3 respondents are open to sharing footpaths with cyclists & non-motorised PMDs

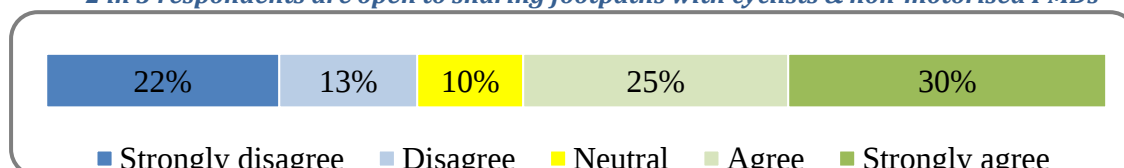


Figure 3
1 in 2 respondents are open to sharing footpaths with e-bikes & motorised PMDs

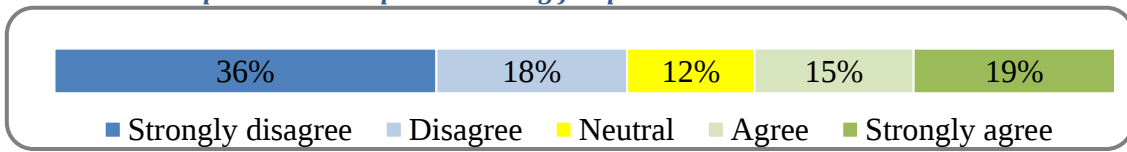
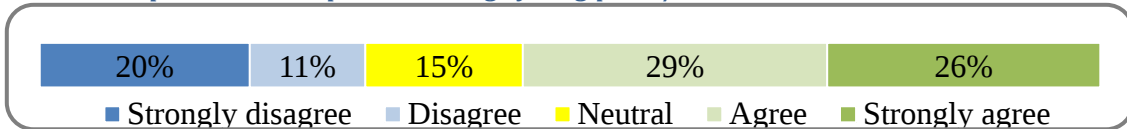


Figure 4
7 in 10 respondents are open to sharing cycling paths/ PCNs with e-bikes & motorised PMDs



C. Focus Group Discussions

Six focus group discussion (FGD) sessions were conducted from November to December 2015 involving about 200 participants. Each session had a good mix of participants comprising pedestrians, cyclists, PMD users and motorists. Many participants use a combination of walking, driving, public transport or cycling to get around daily. Panel members also attended the sessions and heard first-hand, the views and concerns shared by the participants.



The FGD sessions began with an experiential role-playing segment. The participants were asked to role-play different personas (e.g. a considerate cyclist/PMD user, a distracted pedestrian, a reckless cyclist/PMD user) and travel along a short route at Yishun Ring Road, that brings them through signalized traffic junctions (with and without bicycle crossings), narrow footpaths, a bus-

stop with a cycling path built behind it and an informal pedestrian crossing. This helped them to put themselves in the shoes of other footpath users, to prepare them for the discussion ahead.



The experiential sessions were mostly conducted during the evening peak hour where participants had to navigate crowded paths.

Following the experiential session, participants were split into groups of 6 to 7 for small group discussions. Participants were asked to share their thoughts on:

- Their earlier experiences during the experiential segment of the FGD
- How people should behave to facilitate the safe sharing of paths
- How conflicts can be minimized at crowded areas like bus-stops and zebra crossings.





In general, participants were not opposed to sharing paths, but felt that rules and code of conduct for safety must be put in place

When asked to share their thoughts about sharing footpaths with bicycles and PMDs, most participants shared that they were more concerned about the behaviour of the users rather than the type of device they were using. In particular, some said that they felt uncomfortable sharing the path with devices travelling at high speeds.

There was a strong consensus that the faster moving users should always give way to those who are slower and more vulnerable. Fears of sharing paths with cyclists and PMD users could be allayed if they travelled at reasonable speeds, were predictable in their movements and alerted others to their presence. See [Figure 5](#) for the key findings and quotes.

Figure 5: Key Findings and Quotes from Focus Group Discussions

Key findings	<i>Sample quotes from participants</i>
Being gracious and considerate towards other users; cyclists and PMD users agreed unanimously that they should give way to more vulnerable pedestrians	<i>"If you are faster and stronger, you look out for people who are slower and more vulnerable"</i>
User behaviour is more important for safety, than the type of device used	<i>"It's not about what devices are allowed, it's about how they behave on the footpath."</i>
Capping the maximum speed of the device and imposing a speed limit on devices are necessary for pathways	<i>"Having an appropriate speed limit will make the environment safer for everyone"</i>
Users should be predictable in their movements (i.e. keeping left unless overtaking, staying on their designated paths whenever possible)	<i>"Keep left and overtake on the right on the paths, just like what we do on the escalators at MRT stations."</i> <i>"Pedestrians often overflow to cycling paths, defeating the purpose of segregation."</i>
Pedestrians, cyclists and PMD users should be alert and more aware of their surroundings.	<i>"All users should have situational awareness"</i> <i>"Don't walk and look at your phone at the same"</i>

Key findings	Sample quotes from participants
	time"
Cyclists and PMD users should alert others of their presence	<i>"Ring the bell only when overtaking, not to shoo people out of your path. But don't ring it excessively, it gets annoying."</i> <i>"Cyclists and PMD-users should install lights at night to enhance their visibility"</i>

Cyclists should "walk their bikes" or dismount and push at crowded bus-stops, and stop at traffic crossings and zebra crossings to look out for traffic before crossing

Participants debated issues such as whether it was necessary to dismount and push at bus-stops, signalised traffic crossings and zebra crossings. In the online survey, respondents did not feel that it was important for cyclists and PMD users to dismount and push at crowded areas. Focus group participants observed that very few cyclists and PMD users obeyed "dismount and push" signs despite there being many such signs around. Cyclists and PMD users also shared that it was impractical for them to dismount at every crossing and bus-stop, and shared that it might not be safe for them to do so, especially if they have a child or a load with them. In the end, pedestrians and motorists felt that it would be sufficient for cyclists and PMD users to stop and look out for traffic before continuing at a crossing. At crowded bus stops, there was a general view that cyclists and PMD users should "walk their bike" or dismount and push their bicycles or devices.

Participants were against having too many rules and emphasized the need to foster a gracious culture

Many participants believe that imposing too many rules may result in mindless compliance, without a real understanding of safe and gracious behaviour. Instead, participants called for a culture of graciousness to be developed through greater public education, complemented by targeted enforcement of cycling rules.

Participants were mostly opposed to bicycle registration and mandatory insurance

Most participants, including pedestrians, agreed that registration would be unnecessarily onerous for cyclists and PMD users, especially for the young and elderly, and would not adequately address the issues of dangerous or reckless cycling or use of PMDs. Bicycles and PMDs are also commonly used by children and youths for recreational purposes. Furthermore, these devices are easily transferrable between users and it would be difficult and impractical to maintain an accurate and comprehensive database.

Participants also felt that mandatory insurance for cyclists and PMD users might create a false sense of security and encourage them to take greater risks. However, participants agreed that when accidents occurred, cyclists and PMD users should always stop to render assistance to the injured.

Electric bicycles were considered less safe as they are prone to illegal modifications in order to travel at high speeds

Although most FGD participants were comfortable with sharing footpaths with smaller PMDs such as e-scooters and electric hoverboards, they observed that there was an increasing number of electric bicycles being illegally modified to reach very high speeds. Some electric bicycle users travel on footpaths even though this is not allowed, and their excessively high speeds endanger pedestrians. Participants were keen to have stricter enforcement efforts on electric bicycles to deter illegal modifications. They also noted that motorcyclists who had their motorcycle licenses revoked or were unable to obtain a license could easily switch to using illegally-modified electric bicycles.

Section 3

Recommendations

Rules, Code of Conduct and Policies for Active Mobility

The Panel deliberated on the findings of the survey and focus group discussions extensively and makes the following recommendations for:

- A. Rules
- B. Code of conduct
- C. Devices to be allowed on cycling paths, shared paths and footpaths
- D. Physical criteria for devices to be allowed in public spaces

To address the public's concerns about the safety of sharing paths, the Panel recommends a set of rules and code of conduct to ensure cyclists and users of PMDs behave in a safe manner wherever they are. To further enhance safety, the Panel also recommends policies governing the type of devices to be allowed on various types of path.

A. Rules

Rules are important to enforce critical user behaviours and hold users accountable for their actions in these areas

To ensure that the public can remember the rules easily, the list is kept concise and limited to the areas critical to ensure the safety of all public space users. The Panel also recommends that these rules be applied uniformly to all public spaces, to avoid confusion over where they apply.

The key rules are:

- Speed limits of 15km/h (running or leisurely cycling speed) on footpaths, and 25km/h (normal cycling speed) on shared paths and cycling paths
- Devices must be equipped with lights visible from the front and back, which must be switched on during hours of darkness
- Cycling maximum two abreast is allowed on all roads with at least two lanes in that direction, except those with bus lanes during the bus lane operational hours
- No cycling against the flow of traffic on roads

See [Figure 6](#) for a detailed list of rules.

Figure 6: Detailed List of Rules

Cycling and the Use of PMDs/Mobility Aids	
General	• Ride in an orderly manner, with due regard for the safety of others • Observe specific speed – 15km/h (running or leisurely cycling speed) on footpaths, and 25km/h (normal cycling speed) on shared paths and cycling paths
Bicycles	• Switch on the white light in front and red light at back of bicycle during hours of darkness • Electric bicycles which are not type-approved are not allowed to be used in public spaces
PMDs	• Equip the device with white light in front and red light at the back, and switch them on during hours of darkness. If it is not possible to equip the device with lights, the user must be equipped with lights (e.g. wear a luminous vest, fix lights onto a helmet) and switch them on during hours of darkness • PMDs that do not conform to certain physical criteria are not allowed to be used in public spaces
Specific to On-road Cycling (both conventional and electric bicycles)	
	• Observe traffic rules • Every bicycle shall be ridden as close as practicable to the left hand side of the roadway • Cycling maximum two abreast will be allowed on all roads with at least two lanes in that direction, except those with bus lanes during the bus lane operational hours • No riding against the flow of traffic • Use hand signals to alert drivers and other cyclists when turning left or right, and when stopping

B. Code of conduct

The code of conduct comprises best practices to help users share space harmoniously, which should become second nature to users over time

The key guidelines in the code of conduct are:

- Always give way to pedestrians on footpaths and shared paths. Remember also that pedestrians have the right of way on pedestrian crossings
- Slow down and be prepared to stop when approaching high pedestrian-traffic areas such as bus-stops
- Either ‘walk your bicycle’ or dismount and push at high pedestrian-traffic areas
- Stop and look out for on-coming traffic when approaching pedestrian crossings, and cross only at walking speed
- Always stop to render assistance and exchange particulars when involved in an accident

See [Figure 7](#) for the detailed code of conduct.

Figure 7: Detailed Code of Conduct

Specific to Off-road Cycling and the Use of PMDs/Mobility Aids
• Always give way to pedestrians on footpaths and shared paths. Remember also that pedestrians have the right of way on pedestrian crossings • When a cycling or shared path is next to a footpath, use the cycling or shared path instead of the footpath • Slow down and be prepared to stop when approaching high pedestrian-traffic areas such as bus-stops • Either 'walk your bicycle' or dismount and push at high pedestrian-traffic areas • Stop and look out for on-coming traffic when approaching pedestrian crossings, and cross only at walking speed • Keep left unless when overtaking • Do not overtake others when approaching places such as pedestrian crossings, corners and bends. • Keep a safe distance from other users to avoid collisions • Slow down when approaching intersections or where there is limited sight distance such as around bends • Slow down and give way to vehicles/pedestrians when approaching car parks/pedestrian accesses
Specific to On-road Cycling (both conventional and electric bicycles)
• Slow down and look out for other road users when approaching bends, junctions, bus stops and pedestrian crossings or when passing a parked car • Do not weave through traffic • Do not squeeze between a stopped bus at a bus stop and the kerb • Avoid squeezing between a turning vehicle and the kerb • Keep a safe distance behind moving vehicles • Do not hold on to the back or side of motor vehicles • When a cycling or shared path is available, use the cycling or shared path instead of riding on the road • Wear protective cycling gear such as helmet for your own safety
General Code of Conduct for Cycling and the Use of PMDs/Mobility Aids
• Ring the bell/ suitable device fitted that is capable of providing an audible signal only when necessary, such as when trying to overtake others • Ensure that your device lights, brakes, tyres, chain, etc, are in good condition before setting off • Always stop to render assistance and exchange particulars when involved in an accident

C. Devices to be allowed on cycling paths, shared paths and footpaths

Footpaths –Personal mobility aids, bicycles and PMDs are allowed to be used

The Panel recognizes that not every town has cycling paths and there are many cyclists such as the young and elderly who may not be confident cycling on the road. Continuing to ban cyclists on footpaths would displace them onto the roads where the risk of fatal accidents is higher. PMDs such as e-scooters are also not allowed on public roads and paths today, even though many are small, lightweight, and useful for travelling in Singapore's humid weather.

Findings from the public consultation suggest that most people felt that safe behaviour of the user was more important than the type of device used. During the small-group discussions, participants also shared that they were willing to share the paths if there were clear rules and a code of conduct to promote safe behaviour.

Hence, with the introduction of a clear set of rules and code of conduct, the Panel recommends allowing personal mobility aids, bicycles and PMDs on footpaths. Electric bicycles would continue to be disallowed.

Cycling paths and shared paths (e.g. Park Connector Networks) –Personal mobility aids, bicycles, PMDs and LTA type-approved electric bicycles are allowed to be used

Today, bicycles are already allowed to be used on cycling paths and shared paths. From the public consultation exercise, most respondents are open to sharing cycling paths and shared paths with electric bicycles and PMDs. Furthermore, cycling paths and shared paths such as PCNs are usually wider than footpaths and a culture of sharing the space with other users has already been established.

Although there are concerns about the safety of electric bicycles, the Panel notes that LTA-approved electric bicycles are similar in construct to conventional bicycles, have low maximum power-assisted speed and weight, and are generally safe. Furthermore, electric bicycles are commonly used by the elderly and allowing LTA-approved electric bicycles on cycling paths and shared paths would give these vulnerable users a safer option than requiring them to use the roads only.

However, the Panel acknowledges the public's concerns about the dangers posed by illegally modified electric bicycles. The practice of illegally modifying electric bicycles to achieve similar speeds as motorcycles is becoming more prevalent. When riders of these illegally modified electric bicycles use footpaths, cycling paths and shared paths, they endanger pedestrians and other users. Hence, we propose that while we allow the use of electric bicycles on cycling paths and shared paths, the Government should

consider registering these devices to facilitate enforcement against illegally modified electric bicycles.

Thus, the Panel recommends allowing personal mobility aids, bicycles, PMDs, as well as LTA-approved electric bicycles on cycling paths and shared paths. However, electric bicycles should be registered.

D. Physical criteria for devices to be allowed in public spaces

Limits will be placed on speed, weight and size of devices to help to reduce the risk of accidents and injury

We propose the following criteria for all bicycles and PMDs which are used on public paths:

- a. Maximum width of 700mm;
- b. Maximum unladen weight of 20 kg;
- c. Maximum device speed of 25km/h (for motorised devices only).

The maximum device speed will ensure that motorised devices cannot travel at excessive speeds in public spaces. The cap on device weight helps to minimize the impact of collisions during accidents, while the cap on width will allow bicycles and PMDs to cross each other safely on most footpaths and reduce the risk of collisions.

The Panel does not propose introducing physical criteria for personal mobility aids as persons with disabilities and some elderly rely on these devices to move around, and in general, these devices can only travel up to 6 to 10km/h (walking or jogging speed).

Please see Annex B for more details of the physical criteria.

Summary of what devices would be allowed where

In summary, personal mobility aids, bicycles and PMDs will be allowed on all footpaths, cycling paths and shared paths. Electric bicycles will be allowed on cycling paths and shared paths (such as park connectors) only, and must be registered. Bicycles and electric bicycles are allowed on roads, but personal mobility aids and PMDs are not.

Figure 8: What devices would be allowed to operate where

Mode/Type of PMD	Roads	Cycling/Shared Paths (including Park Connector Networks) [Speed Limit – 25 km/h]	Footpaths [Speed Limit – 15 km/h]
 Personal Mobility Aid <i>e.g. motorised wheelchairs, mobility scooters</i>	✗	✓	✓
 Conventional Bicycle	✓	✓	✓
 Personal Mobility Device <i>e.g. skateboard, kick-scooter, electric scooters, electric unicycle and electric hoverboards</i>	✗	✓	✓
 Electric Bicycle	✓	✓	✗

Device Criteria:

  Conventional Bicycle Personal Mobility Device	Maximum unladen weight of 20 kg Maximum device speed of 25km/h (for motorised devices) Maximum width of 700mm
 Electric Bicycle	Maximum unladen weight of 20 kg Maximum device speed of 25km/h Must be LTA-approved

Other recommendations

Besides clear, consistent and practical rules for cycling and the use of PMDs/personal mobility aids, there is also a need to (i) expand the network of dedicated cycling infrastructure; (ii) step up public education on safe behaviour; and (iii) strengthen enforcement against reckless cyclists and users of PMDs.

Infrastructure

The Panel welcomes the Government's goal of providing a dedicated cycling network in every HDB town by 2030. This will create segregated spaces for different users and reduce the risk of conflicts and accidents. The Panel recommends that cycling paths

have clear physical characteristics, such as signs or distinctive colours, to help the public distinguish between footpaths, cycling paths and shared paths. This will also make it easier for the public to adhere to the recommended rules and code of conduct.

Public Education

The Panel recognises that it will take time to establish a culture of safe and harmonious sharing of spaces. The recommended rules and code of conduct should be supplemented with widespread public education and raising of public awareness.

The Panel recommends a nationwide campaign to create public awareness and encourage adherence to the new rules and code of conduct.

The rules and code of conduct and their intent should be communicated clearly and succinctly, so that users are not just aware of them, but also understand the principles behind them – that of ensuring safety and showing care for others. Outreach efforts should be customized for different user groups to enhance effectiveness.

The community could also play a more active role in shaping a culture of graciousness. A good example is the Tampines Volunteer Cycling Warden scheme, where grassroots volunteers self-organise patrols and educate the community on safe cycling behaviour. The Panel recommends that the Government work with and support local communities and interest groups to organize ground-up initiatives that can contribute to building a culture of safety and considerate behavior.

Enforcement

In order to ensure accountability and enhance deterrence against reckless cycling and device use, the Government should enhance enforcement presence on the ground and ensure that those who flout the rules are taken to task.

The Panel recommends paying more attention to areas with high incidences of conflict. Innovative design and use of street furniture could also be employed to help encourage desirable behaviour, and technology such as CCTVs could be used to deter unsafe behaviour.

Section 4

Conclusion

Many people with whom we interacted in the course of our consultations are looking for new ways to get from one place to another conveniently, seamlessly, economically and with less harm to our environment. Active mobility can fulfill these wishes. But the current situation is not ideal. Today, cyclists have to choose between cycling legally on the roads, which is more dangerous, and cycling on the footpaths, which is safer but illegal. Motorised PMDs are not allowed on both public roads and paths. We believe that we can and should change the way we use and share our spaces, one step at a time, for a more progressive transport landscape.

That said, we also recognize the safety concerns of pedestrians. To strike a balance between the needs of pedestrians and active mobility users, the Panel has proposed what we believe are practical and adequate safeguards, in the form of speed limits for footpaths, cycling paths and shared paths, limits on the size, weight and maximum speed of devices, and policies governing the type of devices which can be used on different paths. This will reduce the risk of accidents and extent of injuries should the occasional accident occur.

However, while the rules and code of conduct are important, the cornerstone of a successful implementation of active mobility lies in our being a more gracious society, in our attitude towards sharing and our consideration for the needs of others. It is our hope that the recommendations in this report will lay the foundation for active mobility in Singapore.

Section 5

Acknowledgement

The Panel would like to thank all who had participated and contributed their views generously in the public consultation process. Your valuable feedback and suggestions have helped shaped the recommendations contained in this report.

ANNEX A

Composition of the Active Mobility Advisory Panel

S/No.	Panel Member	
1.	Associate Professor Muhammad Faishal Ibrahim Chairman, Active Mobility Advisory Panel Parliamentary Secretary, Ministry of Education and Ministry of Social and Family Development Associate Professor Muhammad Faishal Ibrahim has been a Member of Parliament since 2006. He served as the Parliamentary Secretary in the Ministries of Health and Transport from August 2012 to September 2015. During his time at the Ministry of Transport and Ministry of Health, Associate Professor Muhammad Faishal chaired the Pedestrian and Cyclist Safety Committee, as well as the Healthy Living Master Plan Task Force.	
2.	Ms Florence Cheong President, Singapore Association of Occupational Therapists Ms Florence Cheong is the President of the Singapore Association of Occupational Therapists, which seeks to assist seniors and persons with disabilities to perform day-to-day tasks and roles essential to productive living. She is also Head of the Occupational Therapy Department at Tan Tock Seng Hospital.	
3.	Mr Chew Men Leong Chief Executive, Land Transport Authority Mr Chew Men Leong is the Chief Executive of the Land Transport Authority (LTA). Prior to his current appointment, Mr Chew was the Chief Executive of PUB, Singapore's national water agency. He also served 25 years in the Singapore Armed Forces and was the Chief of the Republic of Singapore Navy from August 2007 to March 2011.	
4.	Mr Francis Chu Member, National Cycling Plan Steering Committee Mr Francis Chu is the founder and CEO of Totobobo Pte Ltd. He was also formerly a part-time lecturer for the Product Design course in the School of Art Design and Media at Nanyang Technological University. An avid cyclist, Mr Francis Chu co-founded the LoveCyclingSG group in 2010. He is also a member of the National Cycling Plan Steering Committee.	

S/No.	Panel Member	
5.	Mr Eric Chua Chairperson, People's Association Youth Movement Member, National Youth Council Mr Eric Chua is the Chairperson of People's Association Youth Movement's (PAYM) Central Youth Council (CYC). He also chairs the Henderson Dawson Community Sports Club (CSC), and is a member of the Henderson Dawson Citizens' Consultative Committee (CCC) and the Cairnhill Community Club Management Committee (CCMC).	
6.	Mdm Chua Foo Yong Chairperson, Council for Third Age Mdm Chua Foo Yong is the chairperson of the Council for Third Age (C3A). She has been a member of the Board of C3A since its founding in 2007. Mdm Chua also served as the Deputy Chairperson of SG Enable from 2011 to 2013. Mdm Chua was the former CEO of Radio Corporation Singapore and MediaCorp TV, and is the founder of Singapore Media Academy.	
7.	Mr Foo Yang Chiang Justin, BBM Vice Chairman, Clementi CCC Mr Justin Foo has served as a Grassroots Leader in Clementi Citizens' Consultative Committee (CCC) for 17 years. He has been actively championing for better pedestrian facilities and initiatives, such as improving the conditions of footpaths, and the installation of Green Man+ traffic signals. He is also a Councillor in the West Coast Town Council, a District Councillor in the South West Community Development Council and a member of New Town Secondary School's Advisory Committee. Mr Foo was awarded the Public Service Star (BBM) in 2011.	
8.	Mr Han Jok Kwang Member, National Cycling Plan Steering Committee Mr Han Jok Kwang has been the Chief Information Officer for Venture Corporation since January 2006. Prior to his current appointment, Mr Han was the former IT Director at the Raffles Medical Group. Mr Han is a member of the National Cycling Plan Steering Committee. For his valuable feedback on improving safety in the Park Connector Network, Mr Han was awarded the Star Customer Award by the National Parks Board.	

S/No.	Panel Member	
9.	Mr Denis Koh Chairman, Big Wheel Scooters Singapore Mr Denis Koh is the Chairman of Big Wheel Scooters Singapore (BWSS), an online community of electric scooter users in Singapore with about 8,000 members. BWSS advocates the safe and responsible use of electric scooters, and has published a set of safety guidelines and etiquette governing their usage, amongst other initiatives.	
10.	Mr Steven Lim President, Safe Cycling Task Force Mr Steven Lim is the President of the Safe Cycling Task Force, which supports towns such as Pasir Ris in training cycling ambassadors. The Safe Cycling Task Force also regularly conducts safe cycling talks to students and residents.	
11.	Mr Gopinath Menon, BBM Principal Consultant, CPG Consultants Pte Ltd Member, Singapore Road Safety Council Mr Gopinath Menon is a Principal Consultant with CPG Consultants Pte Ltd. He is also a member of the Singapore Road Safety Council. Mr Menon was the Chief Transportation Engineer of Singapore from 1991 to 2001, when he was in the Public Works Department and subsequently the Land Transport Authority. He was awarded the Public Service Star (BBM) in 2010.	
12.	Mr Bernard Tay, BBM, PBM Chairman, Singapore Road Safety Council President, Automobile Association of Singapore Mr Bernard Tay serves as the Chairman of the Singapore Road Safety Council and President of the Automobile Association of Singapore. He is concurrently the Vice-President of Region 2 (Asia Pacific) Federation Internationale de l'Automobile (FIA) and member of the FIA World Council for Automobile and Tourism. He is also the Chairman of Crowe Horwath First Trust LLP, a Singapore Public Accountants and Chartered Accountants firm and Risk Committee Chairman of RHT Capital. Mr Tay is a recipient of the Public Service Medal (PBM) and Public Service Star (BBM).	

S/No.	Panel Member	
13.	Assistant Commissioner (AC) Sam Tee Commander, Traffic Police Assistant Commander Sam Tee is the Commander of the Traffic Police. Prior to his current appointment, he was the Commander of the Airport Police Division and Deputy Commander of both Clementi Police Division and the Police Coast Guard.	
14.	Mr Alvin Yeo, BBM Chairman, Pasir Ris West CCC Mr Alvin Yeo has served as the Chairman of Pasir Ris West Citizens' Consultative Committee (CCC) since 2010. Mr Yeo is also the Director of BSI (1900) Pte Ltd, a construction company. He was awarded the Public Service Star (BBM) in 2008.	

ANNEX B

Physical criteria for devices to be allowed in public spaces

Device	Maximum device speed	Dimension	Maximum unladen weight	Other requirements
Bicycles and PMDs 	25km/h (for motorised device only)	Overall width (including accessories) shall not exceed 700mm.	20kg	• Must not have a fuel engine • Must not be constructed in a way or have fittings that that may be dangerous to users or others • Must not have a car-like or motorcycle-like design
Electric Bicycles 	25km/h (speed at which the motor power cuts off)	-	20kg	

Specific to electric bicycles

- Electric motor with a maximum power output of 250 watts
- Must be type-approved by LTA