

REVIEW OF ACTIVE MOBILITY REGULATIONS FOR SAFER PATH SHARING

Recommendations by the Active Mobility Advisory Panel

Submitted to:

Minister for Transport Mr Ong Ye Kung

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1. Executive Summary

- 1.1 Active mobility, which includes walking, cycling and the use of personal mobility devices (PMDs) and personal mobility aids (PMAs), provides an affordable, convenient, and clean mode of transport for Singaporeans. With its growing popularity in Singapore, the Active Mobility Advisory Panel (AMAP) was set up in 2015 to guide the safe use of these devices, such as by recommending rules and guidelines.
- 1.2 Path safety and public assurance has improved significantly this year. Due to the COVID-19 pandemic, more have turned to active mobility as a mode of transport, especially cycling and walking.
- 1.3 As such, it was timely for the Panel to study the issue of brakeless pedal bicycles. After consulting technical experts, studying other jurisdictions' experience, and engaging various stakeholders, the Panel recommends that there should be a minimum brake requirement for all bicycles used on public paths and roads. This improves safety concerns arising from the use of bicycles without handbrakes, while balancing the impact on a diverse group of cyclists.
- 1.4 The Panel also studied whether to require all active mobility device users be covered by third-party liability insurance (TPLI). Given recent changes in the active mobility landscape, and the current lack of affordable and easily available TPLI products, the Panel decided not to introduce further regulations at this juncture. The Panel will closely monitor the introduction of mandatory TPLI for commercial active mobility device users, which has come into effect from December 2020.

2. Background

- 2.1 AMAP was set up in July 2015 to help develop regulations that govern the active mobility landscape in Singapore. The Panel comprises key active mobility stakeholders including seniors, youths, cyclists, motorists, PMA users, and grassroots leaders (please refer to the [Appendix](#) for more information on the current members of the Panel).
- 2.2 Over the last few years, active mobility modes have become more popular. The Panel has worked closely with the Government to lay a strong foundation of rules and guidelines to promote safety. The ban of e-scooters and all other motorised PMDs from footpaths in November 2019 and April 2020 respectively has improved path safety, with accident rates for motorised PMDs falling by 77% from 2H2019 to 1H2020.
- 2.3 With the improvement in path safety, we are shifting our focus towards greater public education and engagement. Our paths can be safer and more pleasant if everyone can share them graciously, together. The expanded Code of Conduct launched in August 2020 includes simple guidelines for pedestrians, such as not using mobile phones when walking on paths.
- 2.4 The COVID-19 pandemic has encouraged greater use of active mobility modes. Many turned to active mobility to fulfil first-and-last mile transport needs and for recreation. There was also an increase in demand for food delivery services by active mobility riders. The Panel is optimistic that such trends will grow, and will monitor emerging trends closely to review rules and regulations as needed.

3. Context and Stakeholder Engagement

A. BRAKES ON PEDAL BICYCLES

- 3.1 Currently, LTA regulates the weight, width and speed limit of bicycles used on public paths. This is to ensure cyclists can share paths safely with others and reduce the impact of collisions. However, there are no rules on braking equipment for pedal bicycles today.
- 3.2 It is important for cyclists to be able to stop quickly and safely in emergencies. Most conventional bicycles are equipped with two handbrakes (which are easier to learn and use compared to other braking equipment) – one for each wheel. In the event that either of the handbrakes does not function properly, the rider can still use the other handbrake to stop the bicycle.
- 3.3 However, some specialised bicycles have one handbrake, or no brakes at all. The majority of these bicycles come under two groups: fixed-gear bicycles (“fixies”) and bicycle motocross (“BMX”), typically used by interest groups.
- 3.4 Fixed-gear bicycles are bicycles that do not allow cyclists to coast using momentum, when the pedals are stationary. The pedals are directly coupled with the wheel, which allows cyclists to slow or stop the bicycle by resisting the motion of the pedals with their legs. Hence, some cyclists choose to ride these bicycles without handbrakes. These bicycles are mainly used for recreational cycling or in the velodrome for track cycling¹. Inexperienced cyclists may find it challenging to stop fixed-gear bicycles effectively. In January 2020, there was an unfortunate fatal accident involving a cyclist on a fixed-gear bicycle without handbrakes. While cycling down the ramp in a multi-storey carpark, a cyclist fell over the railing to her death because she was unable to stop her fixed-gear bicycle.
- 3.5 BMX bicycles refer to off-road sport bicycles used for racing and stunt riding. Each sport has slightly different equipment requirements and regulations for competitions. For instance, bicycles used in BMX racing are only required to have a rear handbrake – a front handbrake is typically not installed as it may endanger the rider if the brake is engaged accidentally during racing.

¹ Fixed-gear bicycles used in track racing do not have any handbrakes for safety reasons; suddenly engaging a brake during the race could cause a pile up.



(Top left and top right) AMAP Chairman, along with other AMAP members as well as MOT and LTA staff, trying out a fixed-gear bicycle; (Bottom left and bottom right) AMAP members attending a sharing session organised by the Singapore Cycling Federation to better understand BMX bicycles.

- 3.6 To better understand the usage of such bicycles, the Panel engaged the Singapore Cycling Federation, representatives from the cycling community, technical experts and retailers. For fixed-gear bicycles, the Panel learnt that it is difficult, particularly for novice cyclists, to stop a fixed-gear bicycle effectively without handbrakes. Although these bicycles could have handbrakes installed, owners tended not to do so as it would be perceived as cooler, and had lower maintenance costs. For BMX bicycles, the Panel found that BMX sports were typically conducted in controlled environments such as skate/cycling parks, and were generally not used for commutes because of their single gear and small wheels. Brake regulations would affect BMX user groups differently and the future take-up of cycling sports.
- 3.7 The Panel also reviewed overseas regulations on brakes for pedal bicycles. Countries such as Australia, Sweden, Denmark, the UK and Japan require bicycles to have at least one functioning brake, to allow cyclists to stop effectively during emergencies. Fixed-gear bicycles

would effectively be required to have at least one functioning handbrake on top of the fixed-gear braking system.

B. THIRD-PARTY LIABILITY INSURANCE

- 3.8 As more people use active mobility devices, there have been suggestions for TPLI to be made mandatory for all riders, so that accident victims can receive financial assistance. The Panel has thus been studying the issue of compensation for victims involved in active mobility accidents closely.
- 3.9 In 2019, the Panel recommended mandatory TPLI for e-scooter riders who ride for work. The Panel had studied overseas regulations on mandatory TPLI for bicycles, power-assisted bicycles, e-scooters or other active mobility devices. Apart from Japan, Germany and Spain, most countries have not imposed any TPLI requirements for riding active mobility devices. Singapore's move to mandate TPLI coverage for commercial riders of all types of active mobility devices was thus a forward-looking step.
- 3.10 The Government accepted this, and went further to expand the requirements to commercial riders using all types of active mobility devices – not just motorised e-scooters. From December 2020, businesses that engage commercial active mobility riders or lease shared motorised active mobility devices must ensure that their riders are covered by TPLI. As a result, victims of active mobility accidents involving such riders will have access to compensation, while riders can be protected from large compensation claims.
- 3.11 One proposal is to expand mandatory TPLI to non-commercial active mobility device users. To better understand the considerations and trade-offs involved, the Panel and LTA studied the current landscape of TPLI products. Currently, there are only four such TPLI products available in Singapore, with limited take-up amongst non-commercial riders, which includes a wide range of users from young children who ride at parks and playgrounds to on-road cyclists. As a result of a smaller risk pool, premiums are disproportionately high, with significant recurrent cost, especially when compared to the low cost of some active mobility devices.

4. Panel's Recommendations

4.1 The Panel considered views from communities represented by Panel members, and findings from community and industry engagements. After much deliberation, the Panel makes the following recommendations to further improve safety on public paths.

A. BRAKES ON PEDAL BICYCLES

4.2 The Panel recommends introducing a new regulation that all bicycles must have brakes installed when used on public paths and roads. This sets a minimum requirement for bicycle brakes, when there is currently none, improving safety for both riders and path users, and enables even inexperienced cyclists to brake more effectively. This requirement should apply to all bicycles uniformly, for clarity and ease of enforcement.

4.3 This means that all fixed-gear bicycles, which partially triggered the review, must install at least one handbrake, when used on paths and roads. As for bicycles used for cycling sports, these can continue to be used without brakes, in controlled environments such as pump tracks and skate parks. However, as with all other bicycles, they will need to have at least one handbrake installed when used on paths and roads.

4.4 The Panel will also work closely with the Government to monitor whether the current practice of conventional bicycles being equipped with two handbrakes would change with the new regulation, and take further action if needed. While the installation of brakes will improve safety, active mobility device users must continue to observe safe riding practices. The Panel will continue to work with LTA on education efforts, to raise public awareness and promote civic responsibility.

B. THIRD-PARTY LIABILITY INSURANCE

4.5 There are many non-commercial active mobility device users, who use these devices daily. They include ordinary Singaporeans who ride to public transport nodes or nearby shops and eateries, families who ferry their children to school and children who ride together with adults for leisure. Mandating TPLI for non-commercial riders would impact all active mobility users, including infrequent riders.

4.6 Before introducing any new TPLI requirements on non-commercial users, TPLI products should be affordable and easily available. The current high cost of TPLI, especially when compared to the cost of active mobility devices, will deter many non-commercial users from taking up active mobility modes.

4.7 The active mobility landscape has evolved since the Panel first started studying the issue of TPLI, particularly over the last year. Those who ride for commercial reasons are or will be insured by TPLI, and path safety has improved significantly.

4.8 As such, the Panel recommends to monitor the effectiveness of mandatory TPLI for commercial riders as well as the industry response, and not to impose new regulations on non-commercial users at this juncture. The Panel will continue to study the issue, and work



with the insurance industry to develop affordable TPLI for non-commercial riders. The Panel will also continue to educate and encourage more riders to take up TPLI.




5. Conclusion



- 5.1 Path safety is a conscious community effort. The Panel would like to emphasise that all path users, including pedestrians, cyclists, and PMD/PMA users, share responsibility and can play an important part in keeping our paths safe.
- 5.2 The Panel seeks to improve path safety for all, while managing the impact on the active mobility community at the same time. The recommendation on brakes for pedal bicycles, if accepted by the Government, should be implemented after giving the industry enough time to meet the requirements.
- 5.3 As we strive towards making Singapore a car-lite city, the Panel will continue its work to promote safe, responsible and sustainable active mobility.




Appendix



Composition of Term 3 of the Active Mobility Advisory Panel



S/N	Photo	Panel Member
1		<p>Associate Professor Muhammad Faishal Ibrahim Minister of State for Home Affairs & National Development</p> <p>Associate Professor (AP) Muhammad Faishal Ibrahim has been the Chairman of the Active Mobility Advisory Panel since July 2015.</p> <p>He is currently Minister of State for the Ministry of Home Affairs and Ministry of National Development. Prior to his current appointments, he has served in various Ministries, namely, education, social and family development, transport and health. He has been a Member of Parliament since 2006.</p>
2		<p>Mr Baey Yam Keng Senior Parliamentary Secretary for Transport</p> <p>Mr Baey was appointed as the Deputy Chairman of the Active Mobility Advisory Panel in October 2020.</p> <p>He entered the Singapore Parliament in 2006 and was appointed as Parliamentary Secretary for Ministry of Culture, Community and Youth in October 2015. Mr Baey was appointed as Senior Parliamentary Secretary for Ministry of Transport in May 2018, holding a concurrent role in Ministry of Culture, Community and Youth till July 2020.</p> <p>He is also the elected Member of Parliament for Tampines GRC, and the Director of Chinese Development Assistance Council.</p>
3		<p>Ms Florence Cheong World Federation of Occupational Therapists Delegate, Singapore Association of Occupational Therapists</p> <p>Ms Florence Cheong is the Delegate to the World Federation of Occupational Therapists, representing the Singapore Association of Occupational Therapists. Occupational therapists 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. She has been a member of the Active Mobility Advisory Panel since July 2015.</p>

S/N	Photo	Panel Member
4		<p>Mr Justin Foo, BBM Immediate Past Chairman, Clementi Citizens' Consultative Committee</p> <p>Mr Justin Foo has served as a Grassroots Leader in Clementi Citizens' Consultative Committee for 19 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 and a member of New Town Secondary School's Advisory Committee. He has been a member of the Active Mobility Advisory Panel since July 2015.</p>
5		<p>Dr James Goh Jia Hao, PBM Chairperson, People's Association Youth Movement Central Youth Council</p> <p>Dr James Goh Jia Hao has been Chairperson of the People's Association Youth Movement Central Youth Council since 2015. An active member in the youth scene in Singapore, he was appointed an advisory member of multiple associations in Singapore, focusing on youth empowerment, including Beatbox Association of Singapore, Singapore Parkour Association and Singapore Cyber and Online Gaming Association. Concurrently, he also serves as the Vice-Chairperson of the Clementi Centre Management Committee since 2013 and is a member of the National Youth Council. He has been a member of the Active Mobility Advisory Panel since December 2016.</p>
6		<p>Mr Han Jok Kwang Friends of Park Connector Network</p> <p>Mr Han Jok Kwang was the Chief Information Officer for Venture Corporation from January 2006 to early 2019. Prior to this appointment, Mr Han was the former Information Technology Director at the Raffles Medical Group.</p> <p>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. He has been a member of the Active Mobility Advisory Panel since July 2015.</p>

S/N	Photo	Panel Member
7		<p>Mr Koh Juay Meng, PBM Chairman, RSVP Singapore The Organisation of Senior Volunteers</p> <p>As Chairman of RSVP Singapore, Mr Koh Juay Meng advocates senior volunteerism and harnessing the full potential of seniors. An entrepreneur with over 30 years' experience in IT and supply chain logistics, he is actively involved in the community, serving on various committees, such as the Active Mobility Advisory Panel, Merdeka Generation Communications and Engagement Taskforce, SG Cares Steering Committee and Singapore Business Federation Sub-Committee on Aged Workforce. He was also formerly on MOH's Eldershield/Careshield Review Committee and the NCSS Volunteer Resource Committee.</p> <p>Mr Koh is also Chairman of Punggol North Citizens' Consultative Committee and Treasurer of Thye Hua Kwan Moral Charities. He has been a member of the Active Mobility Advisory Panel since December 2016.</p>
8		<p>Mr Ganesan s/o Kulandai, PBM Team Leader, Tanjong Pagar-Tiong Bahru Active Mobility Patrol</p> <p>Mr Ganesan is a dedicated grassroots leader in the Tanjong Pagar-Tiong Bahru (TPTB) Constituency. He is actively involved in many grassroots committees, including the Citizen's Consultative Committee, Active Ageing Committee, Indian Activity Executive Committee (IAEC), Inter-Racial and Religious Confidence Circle (IRCC) and the Tanjong Pagar Everton Park Residents' Committee. He is also an Integration and Naturalisation Champion (INC), a Citizens on Patrol volunteer, and regularly organizes recycling activities with the NEA to promote sustainable practices to residents in the area.</p> <p>Mr Ganesan joined the TPTB Active Mobility Patrol (AMP) in June 2017. He regularly engages residents near shopping centres and marketplaces to share good safety practices in using active mobility devices as well as the rules and regulations.</p>

S/N	Photo	Panel Member
9		<p>Senior Assistant Commissioner Gerald Lim Commander, Traffic Police</p> <p>Senior Assistant Commissioner (SAC) Gerald Lim has served with the Singapore Police Force since 1990. He has previously held several key appointments, including Commander of Clementi Police Division, Commander of Public Transport Security Command, Deputy Commander of Tanglin Police Division, Assistant Director of the Major Crime Division at the Criminal Investigation Department (CID) and Assistant Director of the Bomb & Explosive Investigation Division.</p> <p>He joined the Active Mobility Advisory Panel in June 2018 when he assumed command of Traffic Police.</p>
10		<p>Mr Steven Lim President, Safe Cycling Task Force</p> <p>Mr Steven Lim is the President of the Safe Cycling Task Force (SCTF). SCTF works with authorities and the community to promote safe cycling through education, infrastructure and legislation changes. They also conduct school talks regularly and train cycling safety marshals to support community events. He also has been a volunteering as a Road Safety Champion with the Traffic Police as Road Safety Champion since 2010.</p> <p>Mr Lim is currently also the Vice President (Safety/Education) of the Singapore Cycling Federation, a National Sports Association. He is also the Chairman of Friends of PCN, a group of volunteers who promote stewardship and responsible use of parks and Park Connector Network. He has been a member of the Active Mobility Advisory Panel since July 2015.</p>
11		<p>Mr Ng Lang Chief Executive, Land Transport Authority</p> <p>Mr Ng Lang is the of Chief Executive of the Land Transport Authority (LTA) since September 2020 and joined the Active Mobility Advisory Panel when he assumed this position.</p> <p>Mr Ng was the Chief Executive of JTC from Sep 2017 to August 2020, CEO of Urban Redevelopment Board from 2010 to 2017, and CEO of National Parks Board from 2006 to 2010. Mr Ng has also served in various capacities in the Singapore public service, including the Singapore Foreign Service and the public healthcare sector.</p>

S/N	Photo	Panel Member
12		<p>Ms Jean See Director, Freelancers and Self-Employed Unit, National Trades Union Congress (NTUC)</p> <p>Ms Jean See is Director of the NTUC Freelancers and Self-Employed Unit (NTUC U FSE). NTUC U FSE is the Labour Movement’s initiative to represent the growing pool of freelancers and self-employed persons in Singapore in strengthening income security, skills mastery and collective interests. One of the groups represented under NTUC U FSE’s umbrella is the Food Delivery Rider community.</p> <p>She is also Executive Secretary of the newly-formed NTUC-affiliated National Instructors and Coaches Association (NICA) that represents and advances the collective interests of coaches and instructors in sports, outdoor learning & adventure, fitness and the arts. Ms See contributes as a Tripartite Mediation Adviser and is passionate about encouraging active learning and supporting workers to succeed in their career journeys.</p>
13		<p>Mr Bernard Tay, JP, BBM, PBM Chairman, Singapore Road Safety Council; President, Automobile Association of Singapore</p> <p>Mr Bernard Tay is the Founder and current Chairman of the Singapore Road Safety Council and President of the Automobile Association of Singapore. He also serves in the Federation Internationale De l’Automobile (FIA) on the Audit Committee, is a council member of FIA’s World Council for Automobile Mobility and Tourism, and is the elected Vice-President for Region II (Asia Pacific).</p> <p>He is a Director of RHT Rajan Menon Foundation and RHT Capital Pte Ltd, besides being the Chairman of Crowe Horwath First Trust LLP, a Chartered Accountants, Singapore & Public Accountants firm. Mr Tay has been a member of the Active Mobility Advisory Panel since July 2015.</p>

S/N	Photo	Panel Member
14		<p>Ms Joyce Wong Director, Resource & Impact, SPD</p> <p>Ms Joyce Wong is the Director for Resource and Impact at SPD, a non-profit organisation that has served people with disabilities since 1964. SPD provides services to people with disabilities, promotes inclusion and uses technology to help them improve their quality of life and reach their potential.</p>
15		<p>Associate Professor Yap Fook Fah Associate Professor, Nanyang Technological University</p> <p>Dr Yap Fook Fah is an Associate Professor at the School of Mechanical and Aerospace Engineering in Nanyang Technological University (NTU), Singapore. He is also the Co-Director of the Transport Research Centre at NTU. He teaches courses in dynamics, vibration, and noise control and his research interests include safety of personal mobility devices, dynamics and vibration control of vehicles, railways, and trains. Dr Yap's views on the safety performance of transport vehicles have often been sought after by the industry, the press, and the legal profession.</p>