



IN THE CORONERS COURT
OF VICTORIA
AT MELBOURNE

COR 2022 5630

FINDING INTO DEATH FOLLOWING INQUEST

Form 37 Rule 63(1)

*Section 67 of the **Coroners Act 2008***

Inquest into the Death of Moustafa Aboueid

Delivered on:	4 August 2025
Delivered at:	Southbank, Victoria
Hearing Dates:	7 November 2024
Findings of:	Coroner Paul Lawrie
Representation:	Mr D. Sturzaker – Marque Lawyers for Freestyle Distribution Pty Ltd
Counsel Assisting:	Leading SC P. Thevar – Victoria Police
Keywords:	private electric scooters – e-scooters – high power output – design and performance characteristics – permitted use – regulation of importation and sale

I, Coroner Paul Lawrie, having investigated the death of Moustafa Aboueid, and having held an inquest in relation to the death on 7 November 2024 –

at Southbank, Victoria

find that the identity of the deceased was Moustafa Aboueid, born on 26 June 1994

and the death occurred on 30 September 2022

at The Royal Melbourne Hospital, 300 Grattan Street, Parkville, Victoria

from:

HEAD INJURIES SUSTAINED IN AN ELECTRIC SCOOTER INCIDENT

I find, under section 67(1) (c) of the *Coroners Act 2008* ('the Act') that the death occurred in the following circumstances:

INTRODUCTION

1. On 30 September 2022, Moustafa Aboueid was 28 years of age when he passed away at the Royal Melbourne Hospital from injuries he received when he fell from a privately owned electric scooter eight days earlier on the morning of 22 September 2022.
2. Moustafa had been riding the electric scooter on Cornwall Road, Pascoe Vale when he lost control after encountering a speed hump. He was not wearing a helmet and suffered significant head injuries.

BACKGROUND

3. Little is known of Moustafa's background as his family was reluctant to engage with the coronial investigation. The Statement of Identification signed by his brother on 30 September 2022 reveals that he worked as a tow truck driver.
4. Unfortunately, it is not possible to say what was Moustafa's familiarity or experience with the electric scooter in question (or electric scooters more generally), or the area in

which he was riding. Moustafa held a full Victorian driver's licence with an endorsement permitting him to drive heavy rigid trucks. He was not licenced to ride a motorcycle.

5. The e-scooter Moustafa was riding was a Kaabo Mantis 10 Elite driven by two 1,000 watt electric motors, one for each of the front and rear wheels and powered by 60 V / 18.2 Ah lithium-ion battery (**the e-scooter / the Kaabo Mantis**). It was not registered, and not capable of being registered, for use on Victorian roads.

SUMMARY OF EVENTS ON 22 SEPTEMBER 2022

6. At approximately 8.20am on Thursday, 22 September 2022, Moustafa was riding the e-scooter west along Kent Road, Pascoe Vale. He was not wearing a helmet of any kind. The weather was fine and sunny, and the road surface was dry. The critical events were witnessed by Liam Palomba who was driving his car and following behind Moustafa, and Sinead Connelly who was walking south along Cornwall Road.
7. After travelling approximately 300 metres from Cumberland Road, at the intersection with Kent Road and Cornwall Road, Moustafa turned left through a roundabout to travel south on Cornwall Road. Mr Palomba was travelling at approximately 30 km/h and saw that Moustafa was going faster than him.
8. Moustafa then reached a speed hump on Cornwall Road approximately 100 metres south of the intersection of Kent Road. The precise location of this feature is outside 30 Cornwall Road (**the speed hump**). As Moustafa encountered the speed hump the handlebars of the e-scooter locked to the left and he was thrown off to the right. Mr Palomba described Moustafa as striking the ground 'backwards' with his head hitting the ground first.
9. Mr Palomba and Ms Connelly quickly went to Moustafa to render assistance and saw that he was unresponsive. Mr Palomba called for emergency services. Police arrived at the scene at 8.26am and paramedics arrived at 8.32am. Moustafa was suspected to have suffered a traumatic brain injury, and he was transported urgently to the Royal Melbourne Hospital, arriving at 9.08am.

MOUSTAFA'S CLINICAL COURSE

10. Urgent scans revealed that Moustafa had suffered multiple extensive skull fractures, sub dural and sub arachnoid haemorrhages and uncal herniation. He underwent emergency surgery for a craniotomy and decompression but was very unstable intraoperatively and suffered a cardiac arrest. A return of spontaneous circulation was achieved only after three cycles of cardio-pulmonary resuscitation with defibrillation. It was apparent that Moustafa's original injuries and his secondary hypoxic injuries were likely to be unsurvivable.
11. Over the following week Moustafa's neurological condition remained grave and he deteriorated with multiorgan failure involving renal failure, coagulopathy, ECG changes and electrolyte derangement.
12. By 30 September 2022, a nuclear medicine brain scan¹ revealed that Moustafa had suffered brain death, and his death was confirmed at 3.43pm.

CORONIAL INVESTIGATION AND INQUEST

13. Senior Constable James Edwards of Victoria Police Homicide Squad acted as the Coroner's Investigator for the investigation of Moustafa's death and compiled a brief of evidence. The coronial brief included the following material:
 - (a) Statements from Liam Palomba and Sinead Connelly who witnessed events on 22 September 2022;
 - (b) Statements from police members who attended the scene on 22 September 2022;
 - (c) Records from Ambulance Victoria;
 - (d) An expert report from Senior Constable (SC) Daniel Pearce of the Victoria Police Collision Reconstruction and Mechanical Investigation Unit (CRMIU);
 - (e) Scene diagrams, photos, and measurements (including measurements of the speed hump);
 - (f) User manual, specification sheet and photos of the Kaabo Mantis e-scooter;

¹ Also called a cerebral perfusion or SPECT/CT study.

- (g) An expert report from Detective Senior Constable (DSC) Dr Yuxing Zhao of the Victoria Police Forensic Services Department; and
 - (h) Postmortem inspection and antemortem toxicology reports from the Victorian Institute of Forensic Medicine.
14. After a directions hearing on 25 July 2024, the scope of the inquest was set as follows:
- 1. *The circumstances of the e-scooter crash on 22 September 2022.*
 - 2. *Moustafa Aboueid's e-scooter riding experience and the history of ownership of the Kaabo Mantis 10 Elite e-scooter (Kaabo Mantis).*
 - 3. *The performance, design and safety of the Kaabo Mantis.*
 - 4. *Prevention opportunities relating to the availability and use of e-scooters such as the Kaabo Mantis (and e-scooters of a similar character to the Kaabo Mantis in terms of design, power output and top speeds).*
15. The inquest was conducted on 7 November 2024 and the following witnesses were called:
- (a) Liam Palomba;
 - (b) SC James Edwards;
 - (c) SC Daniel Pearce; and
 - (d) DSC Dr Yuxing Zhao.

FINDINGS

Circumstances of the crash

Moustafa's speed and manner of riding immediately prior to the crash

16. Liam Palomba testified that Moustafa was travelling significantly faster than him and very easily gaining distance on Mr Palomba's vehicle, which he estimated he was driving at approximately 30 km/h. He estimated that Moustafa's speed was approximately 60 km/h, although he may have slowed down for speed humps on Kent Road.² Mr Palomba also described Moustafa veering and swerving whilst in Kent Road but travelling in a straight path on Cornwall Road.³
17. Sinead Connelly recalled in her written statement that Moustafa '... was travelling at about the same speed a car would – 50 km/h'.⁴
18. The speed of the e-scooter was also calculated as part of the collision reconstruction performed by Detective Senior Constable (DSC) Dr Yuxing Zhao, a specialist crash investigator attached to the Victoria Police Forensic Services Department. DSC Zhao calculated the speed upon impact with the speed hump based upon the distance Moustafa was thrown, which was established as approximately 14 metres. The formulas used tend to produce a conservative result, which in this case was 40 to 49 km/h.⁵ I consider this to be consistent with the witness accounts.
19. Mr Palomba was very familiar with the area and impressed as a careful and thoughtful witness. He was well placed to make an estimate of Moustafa's speed, and I am satisfied that Moustafa reached speeds of 50 to 60 km/h as he travelled along Kent Road and Cornwall Road. It is also likely that he carried this approximate speed up to the point he lost control of the e-scooter.

² T009

³ T015

⁴ Exhibit 9 – CB019

⁵ Exhibit 7 – CB124-126

Protective gear

20. Mr Palomba recalled that Moustafa was not wearing a helmet.⁶ Ms Connelly also stated that he was not wearing a helmet⁷, and I accept this to be the case.

Rider distraction

21. Ms Connelly stated that when she attended to Moustafa in the aftermath of the crash, she noticed a mobile phone in the gutter next to him. She recalled that it appeared to be playing a YouTube video.⁸ Mr Palomba also recalled that Moustafa's phone had skidded approximately 10 metres down the road from where he lay and appeared to be playing a YouTube video. Mr Palomba also saw AirPods⁹ on the road.¹⁰
22. The evidence does not permit a conclusion whether Moustafa was distracted by looking at his phone or simply listening to whatever was playing. Nonetheless, I am satisfied that riding with the AirPods playing in his ears would likely detract from his awareness of the environment.

Loss of control at the speed hump

23. Mr Palomba recalled in his written statement that Moustafa hit the speed hump outside 30 Cornwall Road and his handlebars locked to the left. Consequently, he came off the e-scooter to the right and 'hit the ground backwards' with his head hitting the ground first.¹¹ Mr Palomba also stated in evidence that he had a clear memory that the handlebars 'definitely sort of jackknife to the left'.¹²
24. Ms Connelly did not see the beginning of the loss of control but described the immediate aftermath as follows:

All of a sudden I heard a crashing sound, like the bottom of the scooter had hit the road. I turned around to see the male rider's last couple of rolls downhill. Based

⁶ T011
⁷ Exhibit 9 – CB019
⁸ Exhibit 9 – CB020
⁹ Wireless 'earbud' style earphones.
¹⁰ T010
¹¹ Exhibit 9 – CB013
¹² T011

*on what I saw, it appeared as though the male had come off his scooter and landed about 6 meters from the speed bump.*¹³

25. I am satisfied that Mr Palomba was well placed to see the entire event and that he has accurately described its dynamics. Two notable aspects of Ms Connelly's evidence, the sound of the scooter striking the road, and the distance Moustafa was thrown, are consistent with the e-scooter travelling at a fast speed as it encountered the speed hump.
26. In oral evidence, SC Pearce explained the concept of 'high siding', when a rider of a motorcycle or bicycle is thrown off and outwards when travelling at a high speed and the steering input is excessive.¹⁴ He opined that this is what happened to Moustafa when he applied an excessive steering input to the left, possibly because he was not holding the left handlebar (or not holding it properly) as he encountered the speed hump at high speed.

THE E-SCOOTER

Description

27. The e-scooter Moustafa was riding was a Kaabo Mantis 10 Elite¹⁵ driven by two 1,000 watt electric motors, one for each of the front and rear wheels and powered by 60 volt / 18.2 Ah lithium-ion battery. It was not registered, and not capable of being registered, for use on Victorian roads.
28. The e-scooter was imported from China in approximately October 2020 by Ningbo Kaabo Technology Co Ltd. It was sold in Australia by Freestyle Distribution Pty Ltd but there is no known traceable record for the date of sale or the identity of the purchaser. Accordingly, it is not known if Moustafa was the original purchaser or whether he purchased the e-scooter from someone else or received it as a gift.
29. The distribution and retail arrangements connected with the e-scooter are somewhat complex but explained in a letter on behalf of Freestyle Distribution Pty Ltd and Scooter Hut Pty Ltd dated 3 September 2024. The relevant entities within the group of companies for the purposes of this inquest are:

¹³ Exhibit 9 – CB019

¹⁴ T072-074

¹⁵ Serial number KBTL121120090312

- (a) Scooter Hut Pty Ltd (**Scooter Hut**) is a national scooter and e-scooter retailer that operates 13 stores in Australia and an e-commerce website. It is 100% owned by Scooter Hut Holdings Pty Ltd (**Scooter Hut Holdings**).
 - (b) Freestyle Distribution Pty Ltd (**Freestyle Distribution**) did operate as an importing and wholesale division. It also had retail functions. It has not operated since approximately June 2022 (although remaining registered) and its retail functions are now undertaken by Scooter Hut. Freestyle Distribution is also 100% owned by Scooter Hut Holdings.
30. The specifications for the e-scooter published by Kaabo Australia include its maximum speed (calculated under controlled factory conditions) – the maximum speed is stated as ‘(LIMITED TO 25 KM/H) UP TO 60 KM/H ON PRIVATE PROPERTY’.

Mechanical investigation and test rides

31. SC Pearce of the Collision Reconstruction and Mechanical Investigation Unit of Victoria Police examined and tested the e-scooter. The report by SC Pearce explained that the e-scooter had three power settings: ‘economy mode’ – where only the rear motor operates with a low power ceiling; ‘turbo mode’ (rear motor) - where only the rear motor operates with a high power ceiling; and ‘turbo mode’ (both motors) – where both motors operate with a high power ceiling. For simplicity, I refer to these power levels as ‘Level 1, 2 and 3’ respectively.
32. SC Pearce observed that the throttle response was very sensitive, particularly at the higher power settings.
33. The steering was noted to comprise a straight shaft fixed to the handlebars and front hub. SC Pearce commented that this steering arrangement is sensitive to steering inputs from the rider and that excessive inputs, especially at high speeds and without the appropriate lean for the intended course, can make the e-scooter unstable.¹⁶

34. On 17 March 2023, SC Pearce performed a test ride of the e-scooter over the speed hump at the scene.¹⁷ He noted that the road surface was in average condition with numerous cracks, unevenness and repairs. He rode over the speed hump at various speeds up to 30 km/h. When riding over the speed hump at 30 km/h, SC Pearce observed that the e-scooter seemed unstable with the rear feeling as though it had bounced and the entire e-scooter feeling light. He considered that travelling over the speed hump faster than 30 km/h would be dangerous and involve a significant risk of collision.

35. SC Pearce concluded as follows:

*My examination of the scooter did not reveal faults, failures, or conditions with it that could have caused or contributed to the collision, however, in my opinion, this type of scooter is inherently dangerous due to their sensitive steering and upright riding position, especially as speed increases. This is amplified by the addition of two high powered electric motors, which provide maximum torque from zero revolutions per minute (RPM) and aggressive throttle response. If an inexperienced person was to ride a scooter of this type, the chance of incident is high. When riding the scooter, complete concentration is required to maintain stability and ride safely.*¹⁸

36. In his oral evidence, SC Pearce explained the operation of the trigger style throttle and the three power settings (referred to as ‘gears’). The very high available torque was made clear when he recounted that the front wheel would ‘brake traction’ on a dry concrete surface when under acceleration at the highest power setting.¹⁹

37. The e-scooter’s ‘speed limiter’ was simply the programmed top speed for each of the three power settings: Level 1 – 30 km/h; Level 2 – 45 km/h; and Level 3 – 65 km/h.²⁰

38. He also opined that the 10 inch tyres²¹ were sufficient for the other characteristics of the e-scooter.

¹⁷ Also, Exhibit 7 – CB137-138

¹⁸ Exhibit 6 – CB094

¹⁹ T064

²⁰ T067; Exhibit 14 – AM1.6

²¹ The tyres had a diameter of 10” and a tread width of 2.5”

39. SC Pearce also provided insight regarding the most powerful e-scooter he had tested, the ‘Nami Burn-E’, with front and rear hub mounted 1,500 watt motors and capable of short period total output of 4,200 watts. This model was capable of 70 to 80 km/h up an incline with an adult rider and approximately 100 km/h on flat ground.²²

Engineering analysis

40. DSC Dr Yuxing Zhao is a specialist crash investigator attached to the Victoria Police Forensic Services Department. He provided a report dated 19 June 2023 which examined the safety of the e-scooter based on an analysis of its design and performance characteristics.²³
41. DSC Zhao examined the steering geometry of the e-scooter and explained the features of ‘rake’ and ‘trail’. ‘Rake’ is the angle of the steering axis down through the steering column (leaning back towards the rider) measured from vertical. The e-scooter has a rake of 9°. ‘Trail’ is the distance between the centre of the contact patch of the front tyre on the road and the point where the steering axis (extended as an imaginary line) intersects the road surface. The e-scooter has a trail of 30 mm, which is a common approximate value for this specification among various e-scooters.²⁴
42. DSC Zhao explained the principal characteristics affecting the stability of single-track vehicles such as bicycles, motorcycles and e-scooters. A greater rake angle, longer trail distance and longer wheelbase all contribute to increased longitudinal stability, at the cost of manoeuvrability. That is, more force is required for steering inputs, and the turning radius is increased.
43. The inherent stability of an e-scooter plays only a minor role in its controllability on the road as the actual stability of an e-scooter is overwhelmingly determined by rider control and road conditions. The most important elements in e-scooter design to determine their controllability in overcoming road obstacles are suspension capacity and wheel size.²⁵

²² T064
²³ Exhibit 7
²⁴ T090
²⁵ CB134

Suspension

44. The e-scooter has a dual suspension system with a sprung link on each wheel as the shock absorber. DSC Zhao measured the force required to fully compress the suspension of the e-scooter and calculated the upward acceleration at the front wheel which would cause the suspension to reach its capacity, with a rider weighing 120kg. The result was 3.5g.²⁶
45. DSC Zhao concluded that the e-scooter's suspension was more than enough to handle the shock from common road obstacles when under control.

Effect of rider posture

46. Rider posture is very important in vehicles of this character. The force required for a particular mode of upset (for example, flipping forward upon encountering an abrupt obstacle) may be calculated with the rider in a neutral or orthodox position. Effectively, this is a static analysis. However, such an exercise masks the true complexity of forces during an upset where the rider's posture, and hence the centre of mass of the system, is changing and may halve the calculated static forces required to precipitate an upset.²⁷
47. If a rider has adopted a posture that is not ideal for the conditions or the obstacle, or if a rider ends up in such a position because of their own inertia, the scooter may be far more prone to a complete loss of control.

Mechanism of loss of control

48. DSC Zhao considered three possible mechanisms for the loss of control at the speed hump, namely: the e-scooter flipping forward; the e-scooter becoming airborne (or partially airborne); and the rider falling off to the side.
49. DSC Zhao's ultimate opinion was that if the e-scooter encountered the speed hump at a speed higher than 30km/h, it is likely to become airborne with a loss of control.

²⁶ 34 ms⁻²

²⁷ T097

Speed hump and road condition

50. SC Edwards gave evidence that he measured the speed hump and found it to be 6.5 metres wide from one side of Cornwall Road to the other, and 3.7 meters from front to back for a vehicle travelling across it.²⁸ It was 100 mm high at its highest point. These measurements coincided with the road design measurements held by Merri-Bek Council²⁹ for a standard ‘Watt profile’³⁰ road hump.
51. Based on his examination of the scene, SC Edwards did not consider that any defect in the road or damage to the road surface had contributed to the collision.³¹

DSC Zhao’s overall conclusion

52. DSC Zhao’s conclusion regarding the suitability of the e-scooter for use on ordinary roads at high speeds is as follows:

The e-scooter is a highly manoeuvrable single-track vehicle that can maintain self-stability at low to medium speed³² on a perfect flat surface. It is equipped with powerful motors that can accelerate the vehicle to highway speed. However, the steering geometry and wheel size favour the manoeuvrability [sic] at the cost of stability on ordinary suburban road[s] with obstacles such as speed bumps, pot holes or cracks. In particular, when the e-scooter travels more than 25km/h, it tends to lose control on common speed bumps on the road. While a rider can adapt different postures to change the centre of mass of the system in order to keep the e-scooter stable, such response only has a limited effect. Overall, lower speed and human factors such as focussed and active control [of] the e-scooter are essential to ensure safe travel.³³

53. I accept DSC Zhao’s opinion.

²⁸ T020

²⁹ CB064

³⁰ The cross section of the ‘Watt profile’ matches a segment of the top of a sinusoidal curve.

³¹ T019

³² ‘Low to medium speed’ was clarified by DSC Zhao in evidence to equate to approximately 20 to 40 km/h:
T102

³³ Exhibit 7 – CB138-139

Conclusions regarding the e-scooter

54. I am satisfied that the e-scooter ridden by Moustafa had the capacity to easily and significantly exceed 25 km/h on level ground. I am also satisfied that Moustafa was able to reach a speed of 50 to 60 km/h prior to his loss of control at the speed hump.
55. I accept the evidence of DSC Zhao and SC Pearce concerning the stability limitations of the e-scooter at high speeds and in the environments that may be reasonably expected on public roads. The fundamental design of the steering of these devices derives from their original use at lower speeds with an emphasis on manoeuvrability. Little input force is required from the rider to achieve a significant steering effect and the tendency for the vehicle to be self-stable, particularly with regard to its steering, is minimal.
56. The e-scooter appears to be a vehicle that has been iterated through models with greater power and speed, while the fundamentals of the steering geometry have remained. The net result is a vehicle originally designed for low speeds and high manoeuvrability that is now capable of very high speeds. I note that the top speed of Moustafa's e-scooter is published as 65km/h.³⁴

REGULATORY REGIME IN VICTORIA³⁵

57. In Victoria, the default position is that electric scooters are motor vehicles within the meaning of s.3(1) of the *Road Safety Act 1986*, unless the vehicle falls within the definition of an 'electric scooter' in the *Road Safety Road Rules 2017*³⁶ which is then declared by the Governor in Council to not be a motor vehicle for the purposes of the *Road Safety Act* (**an exempt e-scooter**).
58. Currently, an exempt e-scooter may be driven by one or more electric motors but must not have a maximum speed capability of more than 25 km/h³⁷ when ridden on level ground.³⁸ At the time of these events, an exempt e-scooter must not have been capable of

³⁴ Exhibit 14 – AM1.6

³⁵ The following exploration of the Victorian regulatory regime, federal import controls, and features of e-scooters is limited to the context of private e-scooters and does not extend to e-scooters licenced to be available for public hire.

³⁶ As the derivative source of the definition of 'electric scooter' from s.3(1) of the *Road Safety Act 1986*.

³⁷ The increase in the maximum speed capability from 20 km/h to 25 km/h came into effect on 5 April 2023.

³⁸ *Road Safety Road Rules 2017* – Dictionary: version 018, effective from 1 July 2022.

more than 20 km/h when ridden on level ground³⁹ and have a maximum ungoverned continuous rated power output of 200 watts or less.⁴⁰ The 200 watt power limit is no longer determinative as the current declaration simply relies on the definition of ‘electric scooter’ in the *Road Safety Act*.

59. Accordingly, an e-scooter that is capable of more than 25 km/h (or more than 20 km/h at the time of these events) is considered to be a motor vehicle under the *Road Safety Act 1986* with all the consequential requirements for compliance with Australian Design Rules, registration, and licencing of the rider/driver.
60. In addition to the requirements for the vehicle to be an exempt e-scooter if it is to be ridden on a road or road related area, the *Road Safety Road Rules 2017* impose further requirements upon the riders of e-scooters. These include:
- (a) a speed limit of 20 km/h⁴¹;
 - (b) no riding along roads where the speed limit is greater than 60 km/h⁴²; and
 - (c) wearing an approved bicycle helmet unless exempt.⁴³
61. Accordingly, the e-scooter ridden by Moustafa may be considered to be a motor vehicle, but one which was not registered and not capable of being registered in Victoria.

IMPORTATION OF E-SCOOTERS INTO AUSTRALIA

62. Governance of the importation of e-scooters falls to the federal Department of Infrastructure, Transport, Regional Development, Communications and the Arts (DITRDCA).
63. The *Road Vehicle Standards Act 2018* (Cwlth) (**RVS Act**) governs the importation of road vehicles into Australia. Under the RVS Act a ‘road vehicle’ is a motor vehicle

³⁹ *Road Safety Road Rules 2017* – Dictionary: version 023, effective from 1 July 2025.

⁴⁰ Victorian Government Gazette – S331, 30 June 2022

⁴¹ *Road Safety Road Rules 2017* – r.262G

⁴² *Road Safety Road Rules 2017* – r.262D. This is the current requirement. At the time of these events an exempt e-scooter could not be along roads where the speed limit was greater than 50 km/h and the change to this rule came into effect on 5 April 2023. An exempt e-scooter may be ridden on the shoulder of a road with a higher speed limit, or on an adjacent road related area, and may cross a road with a higher speed limit by the shortest safe route.

⁴³ *Road Safety Road Rules 2017* – r.256

designed solely or principally for use in transport on public roads.⁴⁴ Sub-section 6(3) of the RVS Act constrains the exercise of determining whether a motor vehicle is a ‘road vehicle’ as follows:

(3) For the purposes of paragraphs 1(a) and (b), in determining whether a motor vehicle is designed solely or principally for use on public roads, regard is to be had only to the physical and operational features of the motor vehicle.

64. On 1 July 2021, the Secretary of DITRDCA, pursuant to s.6(5)(b) of the RVS Act, issued the *Road Vehicles Standards (Classes of Vehicles that are not Road Vehicles) Determination 2021*. E-scooters are not included. This determination restates s.6(3) of the RSV Act, but with a significant addition:

** In determining whether a motor vehicle is designed solely or principally for use in transport on public roads, regard is to be had only to the physical and operational features of the motor vehicle, not the intended use of the vehicle.*
[emphasis added]

65. I consider that the inclusion of this last clause is a significant step beyond the language of s.6(3) of the RVS Act. With this additional constraint on the definition, an importer may simply point to a lack of road vehicle features (such as indicators, rear view mirrors and the like – which is another problem in itself) in support of a contention that a high powered e-scooter is not designed for use on public roads. Without the additional constraint on the definition, there would be a logical counter to such a proposition, namely that the ‘physical and operational features’ of high power / high speed e-scooters reveal a design (albeit a non-compliant design) for road use.
66. Another determination, the *Road Vehicles Standards (Classes of Vehicles that are Road Vehicles) Determination 2021*⁴⁵ specifies certain classes of vehicle that are deemed to be road vehicles. However, e-scooters are not included.
67. It is apparent that high powered e-scooters are being imported on the basis that they are not ‘road vehicles’ according to the definition in the RSV Act because of a conclusion that they are not ‘motor vehicles designed solely or principally for use in transport on

⁴⁴ *Road Safety Standards Act 2018* (Cwlth) – s.6

⁴⁵ Compilation No.1 as amended and in force on 12 October 2023.

public roads'. This was confirmed in a letter from DITRDCA⁴⁶ to the court dated 8 September 2023 which states:

E-scooters do not satisfy the road vehicle definition as they are not designed solely or principally for use in transport on public roads.

68. Under r.233(3) of the RVS rules, the Secretary (or delegate) of DITRDCA may issue an advisory notice stating that a specified thing is not a road vehicle.⁴⁷ This is not a compulsory process and an importer may proceed without an advisory notice which would otherwise serve to provide an assurance to Australian Border Force officers that the vehicle does not require further approval. DITRDCA also explained this process in the context of e-scooters:

With regard to importation, the RSVA provides for the issuing of advisory notices that a specified thing is not a road vehicle. These can be used for non-road vehicles, more often for those that could be mistaken for road vehicles, which may otherwise be at risk of complications with the Australian Border Force for lack of road vehicle import approval. Some e-scooter importers apply for and are issued such notices while others import their e-scooters without seeking them.

69. Some of the challenges regulators are facing were also detailed:

... there are range of complexities with PMDs⁴⁸ that are not generally present with other vehicle types. These include the ease of importing them and their parts into Australia via post or with other personal effects, and the ability to increase the speed of such vehicles through simple software enhancements. Furthermore, for devices such as e-scooters there is no international agreement on identification number structure or application and so traceability of individual devices is generally not possible.

70. I accept that these difficult challenges exist, but they do not present a sufficient obstacle to explain the current state of affairs where the importation of these devices, no matter

⁴⁶ Letter dated 8 September 2023 from Melissa Cashman, Assistant Secretary, Vehicle Safety Policy and Partnerships Branch – Road and Vehicle Safety Division

⁴⁷ The issue of a notice may follow an application made pursuant to r.233(1), which requires an application fee of \$55: r.251

⁴⁸ Personal Mobility Devices – a class of vehicles that includes e-scooters.

how powerful, is effectively unfettered. The source of the problem does not appear to lie with individuals who are cleverly evading import restrictions. Rather, it is the importation by companies on a commercial scale to supply Australian retailers and online resellers in a burgeoning market.⁴⁹

COMMENTS

I make the following comments connected with the death under section 67(3) of the Act:

71. E-scooters are sold openly throughout Australia on the basis of their power and top speeds. A simple internet search reveals models for sale with advertised top speeds faster than 110 km/h⁵⁰ – that is, faster than the highest speed limit in Victoria. The advertising for these models includes enticements such as, ‘... at a speed faster than a lightening bolt on a caffeine high’, and peak power of 5,000 watts.⁵¹ Moreover, the high torque available from a standing start, and the high power to weight ratio of these vehicles corresponds to the capacity for very rapid acceleration.
72. In a collision or loss of control, the rider’s momentum is carried from their standing position with a real likelihood that they will be propelled head first into whatever is before them. The only thing protecting against a likely catastrophic head injury is a bicycle helmet⁵² (if the rider has been sufficiently careful to wear one), which is not designed for the impact forces associated with highway speeds.
73. It is not only the rider that is exposed to the dangers associated with these high powered devices, pedestrians and other road users are also exposed. The prevalence of use in bicycle lanes, and on shared footways and bicycle paths, serves to highlight these dangers.

⁴⁹ It is estimated that sales of private e-scooters in Australia have grown by 20% annually from 2018: Greaves et al (2025) Public views on legalising e-scooters: Insights from a Sydney Case Study. *Transportation Research Part A: Policy and Practice* Vol 192

⁵⁰ Veloz G5 – 120 km/h; Dualtron – 115 km/h

⁵¹ <https://velozelectric.com.au/blogs/news/fastest-electric-scooter-australia>

⁵² Other lightweight helmets have been designed for use with e-scooters, but these too are not designed for the impact forces associated with collisions at highway speeds.

74. A purchaser in Victoria can easily select a high power / high speed model, either online or in store. There is no licencing requirement. There is no training or testing requirement. There is no registration requirement, and no way to readily identify a particular e-scooter on the road. Finally, and chillingly, there is no rider age restriction.
75. Any notion that these high speed / high powered e-scooter models are being imported and sold in Australia principally for use by enthusiasts on private land, or for use off road, is fanciful. The failure to properly regulate the importation of these devices leaves Victoria, like other states and territories, to wrestle with the problem once they are on our roads. As small motor and lithium-ion battery technology advances further, it is likely that manufacturers will continue to place an emphasis on greater speed and power to maintain their share of the market for these particular models. The *Road Safety Act 1986* properly recognises that e-scooters capable of more than 25 km/h do not belong on Victorian public roads. Outside of established special use cases, there can be no justification for models easily capable of exceeding the speed limit in most residential streets, let alone models capable of travelling at highway speeds.
76. DITRDCA, by proceeding on the basis that powerful e-scooters are not road vehicles because they are not designed solely or principally for use in transport on public roads, has ignored the reality of their actual use on public roads and the growing problem this presents for state and territory road safety agencies. These devices may lack certain features of road vehicles, and they may be accompanied by assertions that they are not intended for road use above 25 km/h, but the ever more powerful motors and higher top speeds tell a different story.

RECOMMENDATIONS

I make the following recommendations connected with the death under section 72(2) of the Act:

Recommendation 1

With a view to supporting Victorian road safety legislation (and the road safety legislation of other states and territories) which prohibits the use of high power / high speed e-scooters on public roads, the Secretary of the Department of Infrastructure, Transport, Regional Development, Communications and the Arts:

- (a) review the conclusion that e-scooters capable of speeds higher than 25 km/h are not road vehicles for the purposes of the *Road Vehicles Standards Act 2018*;
- (b) consider a ban on the importation of high power / high speed e-scooters, save for individual instances on an exemption basis where a proper use case can be established and;
- (c) consider a ban on the sale within Australia of high power / high speed e-scooters, save for individual instances on an exemption basis where a proper use case can be established.

Recommendation 2

That the Victorian Minister for Transport and Planning seek to introduce amendments to Part 6A of the *Road Safety Act 1986* to provide for the forfeiture of high power / high speed e-scooters that do not fall within the exemption to not be a motor vehicle within the meaning of the *Road Safety Act 1986*, if used on a public road or road related area.

DIRECTIONS

Pursuant to section 73(1) of the Act, I direct that this finding be published on the Coroners Court website in accordance with the Rules.

I direct that a copy of this finding be provided to the following:

Souhail Aboueid – Senior Next of Kin

Freestyle Distribution Pty Ltd c/- Marque Lawyers

Department of Infrastructure, Transport, Regional Development, Communications and
the Arts

National Transport Commission

Department of Transport and Planning (Victoria)

Royal Melbourne Hospital

Senior Constable James Edwards – Coronial Investigator

Signature:



CORONER PAUL LAWRIE

4 August 2025



NOTE: Under section 83 of the *Coroners Act 2008* ('the Act'), a person with sufficient interest in an investigation may appeal to the Trial Division of the Supreme Court against the findings of a coroner in respect of a death after an inquest. An appeal must be made within 6 months after the day on which the determination is made, unless the Supreme Court grants leave to appeal out of time under section 86 of the Act.
