Bridging the E-scooter Gender Gap

Enhancing Adoption and Safety

neuron

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Introduction

In 2017 Neuron Mobility pioneered the first e-scooter rental programme in Singapore.

Today micromobility operators provide rental e-scooters in hundreds of cities worldwide. Since they first appeared on the streets significant advancements have been made in the design and construction of e-scooters, as well as in the regulation and management of e-scooter programmes.

Technological innovations like geofencing have been introduced to control where e-scooters can be ridden and parked and to limit their speeds in different areas. Features including integrated helmets, topple detection and voice guidance have been introduced to further improve safety for riders and also the wider community. As a result, e-scooters have been more widely adopted and are now regarded as a mainstream transport option which provides a convenient, cost-effective, and environmentally-friendly alternative to cars.

This research evaluates survey data from over 10,000 Neuron riders in their key markets (Australia, New Zealand, Canada and the United Kingdom) between April 2021 and June 2023. It also incorporates detailed insights garnered from a series of rider focus groups held in the first half of 2023. By examining usage patterns and perceptions of rental e-scooters, including their safety, this paper sets out to inform policymakers, urban planners, and e-scooter service providers on how to develop more inclusive and safer micromobility programmes for all.
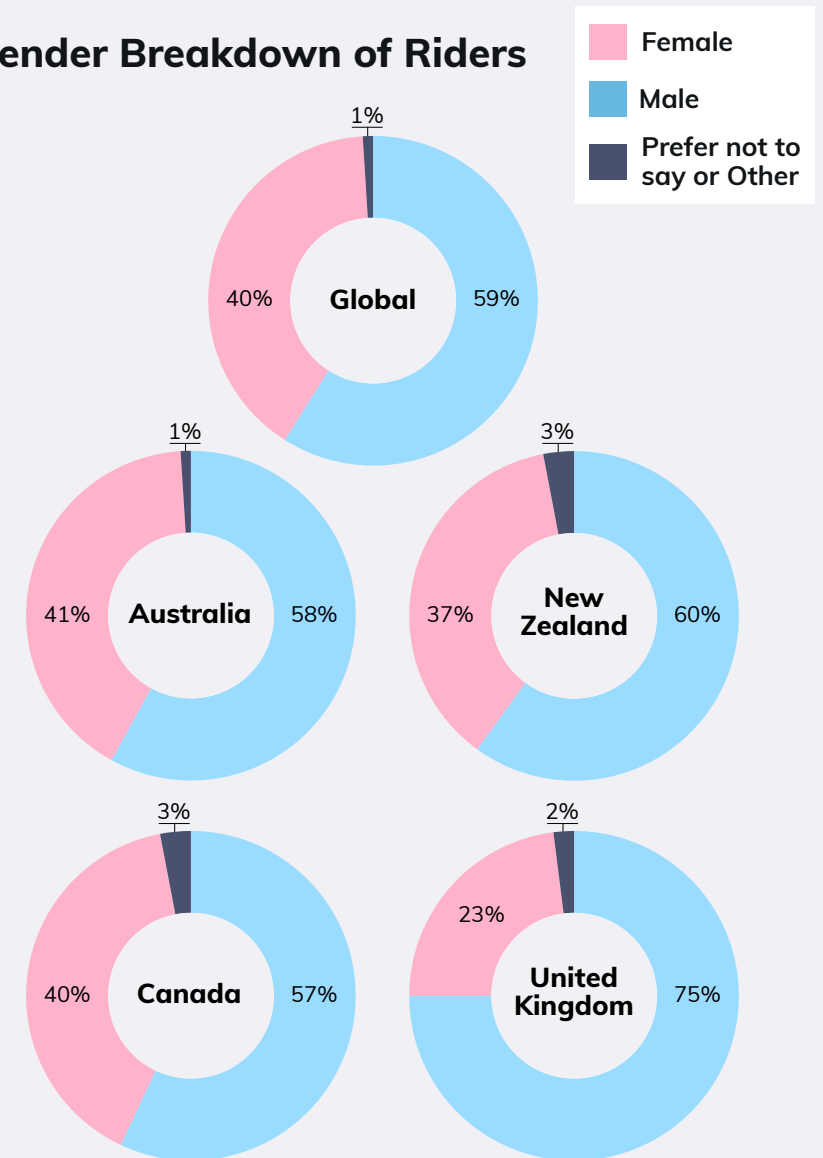
Gender Characteristics and Differences in E-scooter Usage

The demographic breakdown of Neuron's e-scooter riders reveals an intriguing gender and age distribution. Based on Neuron's survey data the global average showed 59% were male while 40% were female, and 1% either preferred not to say or identified as another gender. These figures were consistent with findings in Australia, New Zealand and Canada, however a wider gender gap was recorded in the United Kingdom where men comprised 75% and women represented only 23%.

Gender Breakdown of Riders

Legend:
- Female (pink)
- Male (blue)
- Prefer not to say or Other (dark)

Global: 40% Female, 59% Male, 1% Prefer not to say or Other

Australia: 41% Female, 58% Male, 1% Prefer not to say or Other

New Zealand: 37% Female, 60% Male, 3% Prefer not to say or Other

Canada: 40% Female, 57% Male, 3% Prefer not to say or Other

United Kingdom: 23% Female, 75% Male, 2% Prefer not to say or Other

Across all countries, the most prevalent age group for all e-scooter riders was between 25 - 34 years old.

However a broader age range of 16 - 34 years accounted for 60% of all female riders and 52% of all male riders. This indicates a higher proportion of younger females are now choosing to ride e-scooters, and there exists a greater proportion of male riders 35 or over than female riders. Notably very few riders over the age of 65 were found to have used rental e-scooters, and of these older users, males (2%) were twice as likely than females (1%) to ride.

Top Reasons to Ride an E-scooter

Leisure, entertainment and recreation

| Female | 76% |
| Male | 69% |

Commuting to work or study

| Female | 31% |
| Male | 36% |

Travelling to appointments and carrying out errands

| Female | 43% |
| Male | 51% |

Connecting to public transport

| Female | 19% |
| Male | 22% |

Age Distribution of Female Riders

Age Distribution — 16-17, 18-24, 25-34, 35-44, 45-54, 55-64, 65+

	16-17	18-24	25-34	35-44	45-54	55-64	65+
Global	1	29	30	18	16	5	1
Australia	1	28	29	17	18	6	1
New Zealand*	0	38	32	16	10	3	1
Canada	1	24	37	24	11	2	1
United Kingdom*	0	39	25	22	11	2	1
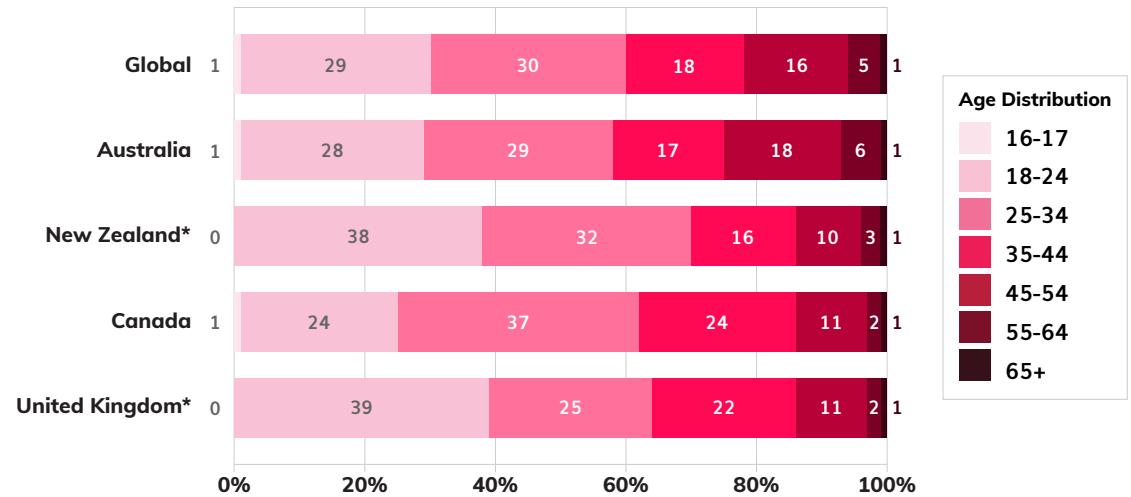
Age Distribution of Male Riders

Age Distribution — 16-17, 18-24, 25-34, 35-44, 45-54, 55-64, 65+

	16-17	18-24	25-34	35-44	45-54	55-64	65+
Global	1	23	28	21	18	7	2
Australia	1	23	27	20	19	8	2
New Zealand*	0	27	24	20	21	5	3
Canada	2	19	32	26	15	5	1
United Kingdom*	0	26	31	22	12	8	1
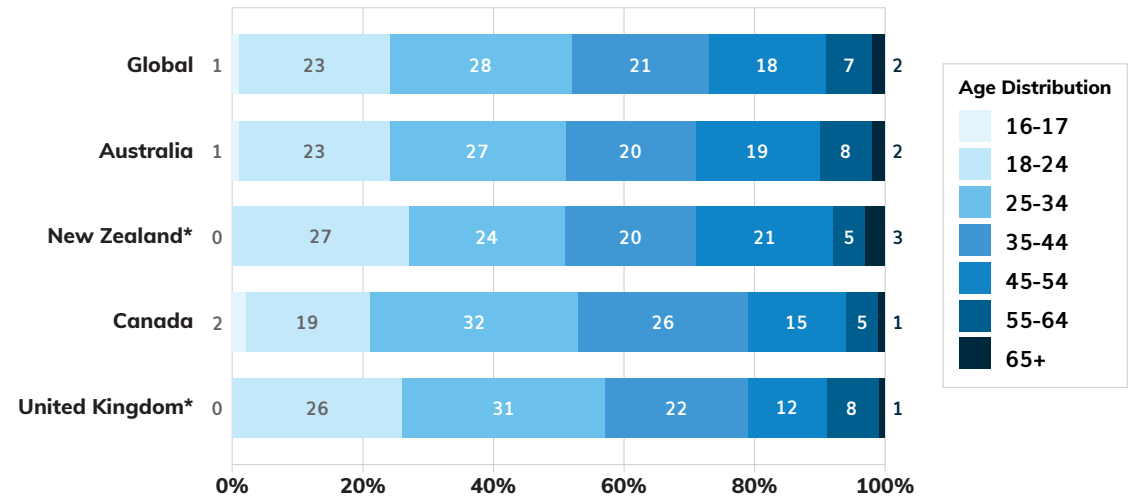
* The minimum age requirement for Neuron riders is 18 years old and above in these countries

Reasons for the Gender Gap

Neuron's rider surveys and focus groups identified various factors which potentially explain the disparity in the ratio of male to female riders across different countries and cities.

Appetite for Risk and Speed of Adoption

Focus group participants from all genders acknowledged that there were significant differences in risk tolerance between males and females. Female respondents claimed to be more risk averse and prioritised safety to a greater extent than their male counterparts. The research also revealed that a higher number of males had previously been early adopters of private e-scooters and their familiarity with these vehicles may have led to a quicker acceptance and adoption of rental e-scooters.

It is worth noting that in some countries private e-scooters have garnered a negative reputation as they were, and in some cases still are, largely unregulated. Across the United Kingdom and also in some Australian states and territories, private e-scooters remain illegal to ride on public land. However the laws are sometimes difficult to enforce, or are flouted, and this has resulted in more negative attitudes towards e-scooters generally.

Compounding this, private e-scooters are less controlled than rental e-scooters, with many capable of reaching speeds significantly exceeding the legal limits, posing additional risks to both riders and the community. In contrast, rental e-scooters use onboard technology to automatically keep within the speed limits and also to lower the speed in certain locations like areas of high foot traffic for safety reasons. Rental e-scooters are more robust, benefit from regular servicing, and have a range of safety features not found on private e-scooters.

Features on Neuron Rental E-scooters

Despite the differences in the risk profile between rental and private e-scooters the two are often conflated. This can pose a barrier to adoption particularly amongst females, however those familiar with both types of vehicle stated they felt more safe and secure on rental e-scooters.

Integrated Helmet
World's first app-controlled helmet lock that electronically releases a safety helmet at the start of a trip

Geofencing Technology
Controls where e-scooters can be ridden and parked, and their speed in different areas

Voice Guidance
"Talking e-scooter" system to educate riders and deliver instructions on safe riding

Follow My Ride
Allows riders to share their trip with friends and family in real time for added safety and peace of mind

Topple Detection
Alerts Neuron's operations team if an e-scooter has fallen so they can reposition it safely

Emergency Button
The feature can identify if a rider has had a fall, then help them call the emergency services

Identification Plates
Rental e-scooters have unique identification plates, and are GPS-connected making it easier to report issues

Ride Insurance
Neuron offers a mix of insurance cover to protect riders and the wider community

City Infrastructure

To improve e-scooter adoption, rider focus groups revealed that males favoured the provision of infrastructure which improved access and connectivity, while females called for better riding conditions such as well maintained road surfaces and better street lighting. All genders surveyed voiced apprehension about riding on busy roads lacking sidewalks and protected bike lanes.

The majority of riders, 73%, called for cities to provide more protected lanes, stating they would significantly increase ridership.

In the United Kingdom and some parts of Australia e-scooters are banned from pavements or footpaths. In New Zealand e-scooters can be ridden on roads and footpaths but not in designated cycle lanes. In Australia and Canada regulations vary from city to city, and there exists a mix of rules relating to where e-scooters can be ridden. Often cities in both countries also grant access to footpaths, protected roadside lanes and shared paths which are generally regarded as safer environments for e-scooters, particularly by females.

All riders surveyed were acutely aware that parking compliance can improve safety, particularly for vulnerable groups in the community. In cities where riders are required to end their trips at a designated parking station 89% of all riders suggested more physical identifiers, like painted bays or parking mats. This would help them park correctly while also reassuring the community that e-scooters had not been abandoned.
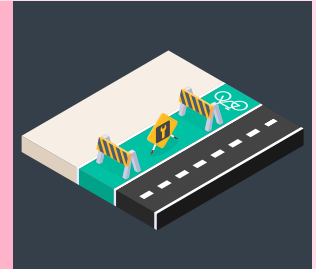
Riders also stated they would like to see a higher density of parking stations, with 72% claiming they would be deterred from using an e-scooter if they had to walk more than 200 metres from the parking station to their final destination.

Infrastructure to Improve E-scooter Adoption

Female
75%
Well maintained road surfaces

Female
82%
Well-lit roads, pathways and cycle lanes

Male
85%
Dedicated on-road bicycle and e-scooter lanes

Male
52%
Access to shared pathways

Education and Enforcement

Before using rental e-scooters riders are required to sign up to the operator's Terms of Service and agree to city-specific rules. In many cases riders must complete online education modules prior to their first trip.

In Australia 70% of all riders agreed that safety education was an important driver in forming good riding habits.

However females preferred the carrot approach with 39% supporting incentives as a way of reinforcing good behaviour versus 32% of males. Whereas males were more in favour of the stick, with 67% calling for more enforcement and fines for those who break the rules versus 60% of females. Respondents also noted that it was vital for rental e-scooter operators to play an active role in enforcement by identifying and suspending rule breakers.

Incentivising Good Riding Behaviour

Rider Education
Neuron's online riding school, **ScootSafe Academy**, delivers city-specific modules to give users the confidence to ride and park an e-scooter safely while earning free credits. It also plays an important role in re-educating those who break the rules by delivering targeted training modules specific to their violation.

Encouraging Helmet Use
Almost all riders globally (96%) agreed helmets are important for improving safety outcomes and 56% believed e-scooter operators should provide them. To promote helmet use, Neuron incentivises riders to take a **'helmet selfie'** before their trip to earn free credits.

Sharing of Domestic Tasks

Confirmed by all genders in focus groups was the unequal distribution of domestic tasks. A higher number of females shouldered responsibilities such as the weekly supermarket shop and caring for young family members. These specific tasks were less suited to e-scooters due to the need to transport goods and also because e-scooters are not suitable or legal to carry more than one passenger.

Additionally, some females, particularly those who travelled with children, were forced to explore other transport options. Regulations prohibit tandem riding and do not allow children to operate their own e-scooters for legal and safety reasons.

Rider Focus Group Feedback

Female

"It's not an option to use an e-scooter to take the kids to school, and they are not practical for a large supermarket shop, but for other errands and meeting friends they are great."

Male

"E-scooters are my preferred option for commuting, I rarely drive now - only when it is raining."

Female

"When I'm heading home alone at night I feel safer riding an e-scooter than walking, and I like that I can share my trip on the app with friends so they can track my journey."

Male

"Infrastructure is important - cycle lanes are much safer and I'd like to see more parking stations so people don't think that I'm abandoning my e-scooter when I park it."
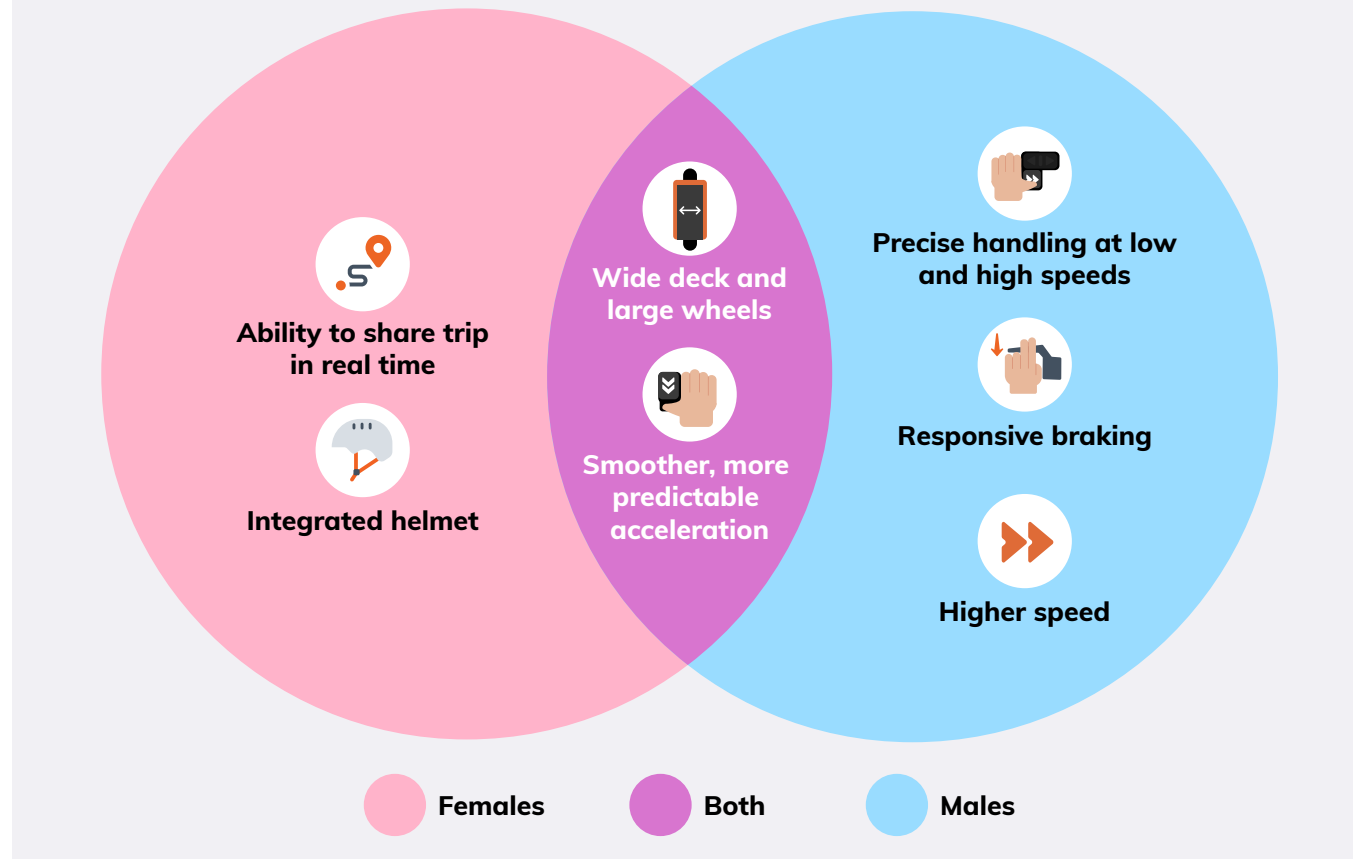
Female

"As a hospitality worker, e-scooters have saved me so much time and money as I no longer need to take Ubers and taxis after my evening shift."

E-scooter Characteristics and Attire Considerations

Vehicle comfort and stability was valued by all riders, a wide footboard and large wheels were recorded as the most appreciated features. Males most valued the ride and handling of the e-scooter with 40% stating that increasing the top speed would encourage them to ride more often, this sentiment was far lower in females (23%). Over 37% of females appreciated the ability to share their trip with friends or family in real time through the app, this was less important to males (15%).

An interesting observation made by some female riders was the incompatibility of e-scooters with certain types of clothing such as high heel shoes and this discouraged some trips for practical reasons. Though others also stated that e-scooters were favoured over bicycles when it came to wearing skirts and dresses. Additionally, while all riders acknowledged helmets are essential pieces of safety equipment, which should be provided by operators, some females highlighted the negative impact they could have on their hairstyles. Male attire was generally regarded as suitable for e-scooter riding and presented no barriers or safety issues.

Most Appreciated E-scooter Characteristics by Gender

Ability to share trip in real time

Integrated helmet

Wide deck and large wheels

Smoother, more predictable acceleration

Precise handling at low and high speeds

Responsive braking

Higher speed

Females   Both   Males

Over 37% of females appreciated the ability to share their trip with friends or family in real time through the app.

Night Time Riding

Increasingly cities are recognising that rental e-scooters provide an important transport service for those involved in the night time economy. These include workers in the hospitality and healthcare sectors who use e-scooters during off-peak times when public transport may be less frequent and taxis and rideshare services more expensive.

Riders who travel at night were very reliant on e-scooters with 37% stating they would not have made the trip at all had e-scooters not been available, this is compared to the full-day average where 10% of trips would not have been made without an e-scooter.

Looking in more detail as to why riders travelled at night, 57% of all riders opted for e-scooters over public transport during off-peak hours due to their flexibility and convenience. Female riders were more price sensitive, 65% stated that cheaper prices and discounts would encourage them to ride more, this was 10% higher than males. Over 43% of females also indicated their top reason for riding at night was that e-scooters were often cheaper than taxis and rideshare services. They also indicated that e-scooters were potentially safer when travelling alone, improving their sense of personal security at night compared to walking or public transport.

Supporting the night time economy

20% of all trips happen between 10pm and 6am

70%* of riders called for longer operating hours in cities with night time curfews

37%* of trips would not have happened at all if there were no e-scooters

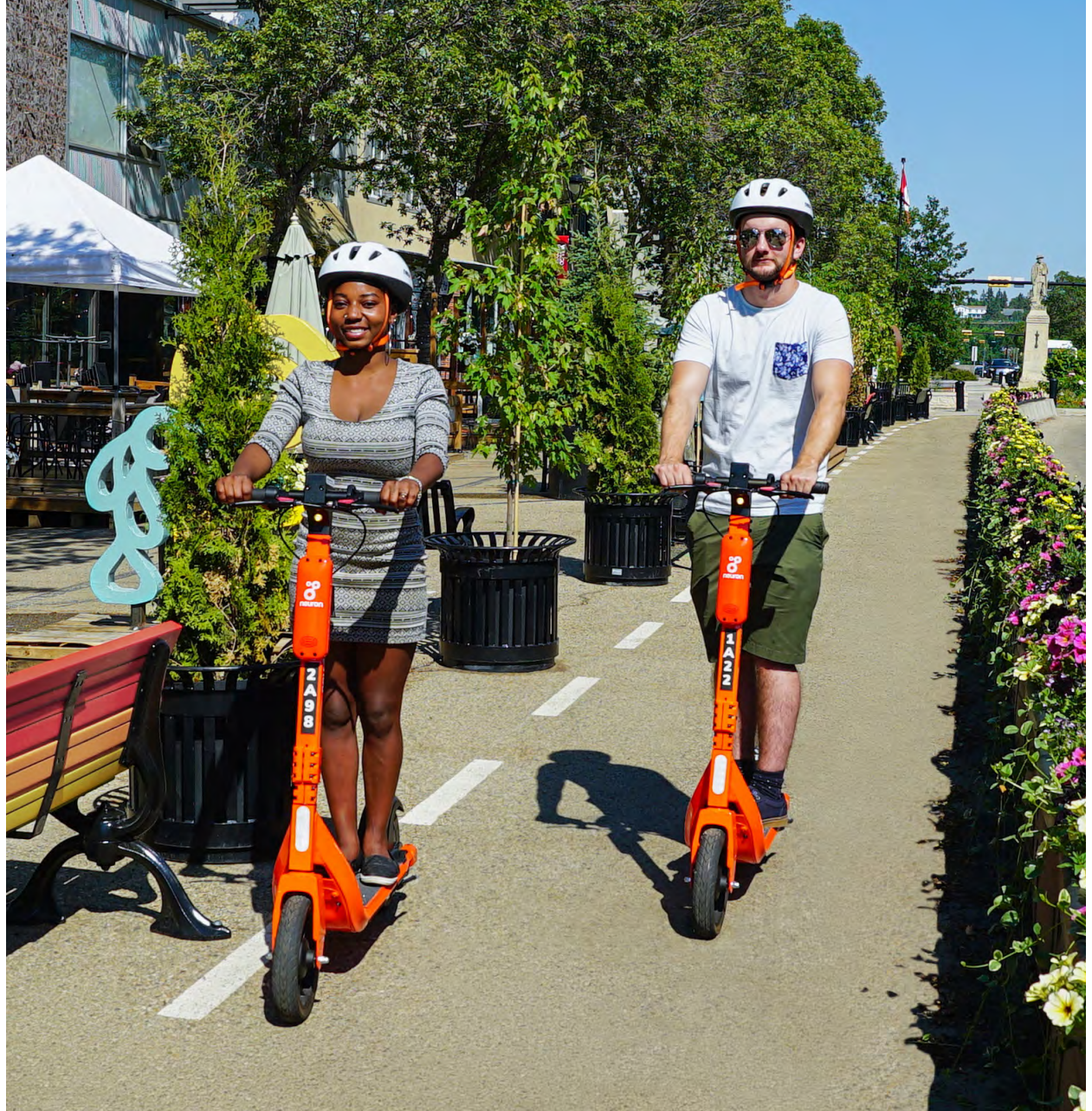*Obtained through a rider survey conducted in an Australian city without 24 hour operations*

Recommendations

In conclusion, the analysis of gender adoption rates, usage patterns, and perceptions of e-scooters has provided valuable insights for the development of inclusive and safe micromobility programmes.

Neuron's data and research highlights the different appetites for risk, the impact of city infrastructure on adoption rates, and the importance of education and enforcement. It also examines the suitability of e-scooters to cater for riders conducting different daily tasks and considers how e-scooter design can affect the adoption by both males and females. These findings offer key recommendations for policymakers, urban planners, city transport teams and e-scooter service providers to foster a more inclusive and safer e-scooter ecosystem for all.

1 Consider all genders when implementing e-scooter programmes, with particular emphasis on e-scooter design, pricing, education and infrastructure.

2 Make safety as well as comfort, ride and handling the cornerstones of e-scooter design.

3 Improve the riding environment by providing and allowing e-scooters access to protected cycle and multi-use lanes.

4 Allocate an adequate number of well-marked, well-lit e-scooter parking stations across the riding area to increase accessibility and improve adoption.

5 Operate 24-hour services to support the night time economy, cater to shift workers and increase personal security at night.

6 Implement rider education programmes with incentives to promote safe and responsible riding, emphasising the importance of helmets in preventing serious injuries.

7 Strengthen the enforcement of e-scooter regulations to increase compliance, improve rider behaviour and the overall perception of rental e-scooters within the community.

8 Contextualise the risk profile of e-scooters compared to other transport options and differentiate between private and rental e-scooters.

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