

Inquiry into e-mobility safety and use in Queensland

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Introduction

I appreciate the opportunity to contribute to the Queensland Parliamentary Inquiry into e-mobility safety and use. I'd like to share with the committee some perspectives from our family based on our adoption of e-cargo cycling, the benefits we've derived and the barriers we've encountered.

I'm a husband and father of three young boys, living in the inner north suburbs of Brisbane. I volunteer with cycle and walking advocacy groups including Better Streets, Space 4 Cycling and Queensland Walks. I am active travel coordinator for the parents and citizens association of my children's school, and I am an administrator/moderator for an active Facebook Group called "Cycling Parents and Cargo Bike Riders in Brisbane" which currently has over 500 members.

Our Family's Journey with E-Mobility

Our family has been using e-cargo bicycles since 2020 and we have travelled over 12,000 kilometres on these incredible devices. This is a journey which started earlier, with walking for transport when our children were born. The children would often sleep in the buggy as we pushed them around and we didn't need to unsettle them when we got to our destinations. This allowed us to be physically active, and enjoy city living: random community connections, stopping for a coffee, people watching, and exploring the built environment. We could push the buggy onto public transport to further extend our range, and we were lucky to be living in a location where these options worked for a significant proportion of our household trips.

Our car light lifestyle was further reinforced when our second child was born and he suffered terribly with motion sickness. This was distressing both for the child and for the parent trying to focus on the task of driving. The disconnection created by the universal layout of the family car further compounded this distress, with the child isolated in the rear of the car in a rear facing car seat, and often we would be stuck in traffic without a safe place to pull over and comfort him. These seating arrangements of course are necessary due to the narrow focus required to safely operate a car at traffic speeds, and the extreme forces exerted when motor vehicles collide with each other or fixed objects.

We also grew weary of the monotony of strapping two young children in and out of the car as we moved relatively short distances in our community, searching for parking and navigating tight car parks while keeping them safe.

We started to notice families in our community adopting cargo cycling and this presented us with another opportunity to extend our range while also freeing ourselves from public transport's fixed routes and schedules. We toyed with the idea over a period of months, talking with parents we would meet on our many playground trips, and who would generously offer advice and relate their experiences.

International Experience: Starting in Dublin

In August 2019 an opportunity arose to purchase a Babboe City front loader cargo bicycle from an American diplomat returning stateside. It was non-electric but suited to the mostly flat terrain of Dublin, Ireland where we were living at the time. The seller told us that the only hill that regularly caused her to break a sweat was a modest one approaching Dublin Zoo. The children would sit in front of the rider, surrounded by a protective box and our middle child was strong enough at this point to sit upright in a toddler shell on the bench seat. His motion sickness was not a problem in the cargo bike, and both children would regularly nap on the bike, allowing us a pit stop for coffee.

We cycled through COVID lockdowns in Dublin while residents were often restricted to travel within 2 kilometres of home, and later within 5 kilometres of home. It was a stressful time for everyone, and my wife and I worked split shifts caring for the children as we juggled busy careers. It was also a joyous time for us, filled with the fondest memories. We would each spend up to four hours each day exploring our local environment, visiting the beach, the creek, and local parks. The reduction in car traffic created opportunities for us to use routes that we previously had not been able to use, and my wife had the space to increase her comfort level navigating by road. The Irish government also used this opportunity to implement quick build walking and cycling infrastructure to support people staying active, and to facilitate social distancing. Most of this infrastructure has since been formalised and extended as the measures proved popular.

In July 2020, with our eldest child soon to start primary school, we decided to upgrade to a newer cargo bicycle with an electric motor. We needed a reliable option that both my wife and I could regularly cycle the short but congested route to school, and avoid the parking pressures typical of our constrained urban environment. The Urban Arrow front loader we purchased is the most popular cargo bicycle in the Netherlands, and came with robust disc brakes and a strong Bosch performance line motor, both of which would be useful when we returned to Brisbane. The list price of the bicycle was €5,500 (AUD 9,750), but it was purchased with support from Ireland's Cycle to Work Scheme, which offers salary sacrifice up to €3,000 (AUD 5,250) for commuting bicycles. This meant that part of the bicycle was purchased with pre-tax income, which reduced our income tax bill.

Challenges of E-Cargo in Brisbane

We returned to Brisbane in January 2021, and the Urban Arrow followed later by sea container, navigating Brexit customs issues and the Suez Canal blockage en route. Finally in May 2021 we were reunited and could again leave the car at home while we cycled to school via the meanders of Enoggera Creek Bikeway. Shortly thereafter we were separated again when the Urban Arrow experienced its first transmission failure while approaching Sunset Park, Ashgrove West, in August 2021. Brisbane's hills proved too much for the heavy bike combined with the Enviolo internal gear hub system. We likened it to car manufacturers testing their designs in extreme heat conditions like Death Valley, California. Finally, after a second hub failure in June

2023 on the Enoggera Creek Bikeway, the manufacturer replaced it with a heavy-duty courier-grade unit. We experienced no further issues and later sold the bike to a family in Cairns in January 2025.

In both instances the Urban Arrow was off the road for several months while we argued our case for warranty replacement and awaited parts from the Netherlands. One of the challenges with cargo cycling has been the capacity of the industry to support families getting back on the bike in the event of equipment failure. The same logistical support that keeps the family car operational does not yet exist, and rental bikes are not as easily available to fill gaps.

The Role of Subscription Services

Thankfully for those of us in Brisbane this has changed considerably since late 2022 when specialist e-cargo firm Lug and Carrie launched here. Their weekly subscription offerings include insurance, roadside assist and in house servicing. They also offer sales and service of e-bicycles and are now the national distributors for Taiwanese brand Tern. Originally best known as a folding bike manufacturer, Tern is now a major e-cargo brand. Lug and Carrie's investment and scale has professionalised e-cargo logistics to an extent that smaller operators struggle to replicate.

It was while awaiting our second warranty replacement of the transmission for the Urban Arrow that we trialled a subscription of a Tern GSD longtail e-cargo bicycle through Lug and Carrie. Their minimum subscription period is just 28 days which allows people a low commitment trial, but also has become an essential backup for those that suffer failures of their own bicycles. In our case the trial was successful and once the Urban Arrow was again operational we became a two e-cargo household. This allowed my wife and I to meet the regular requirement to carry three children on family trips, and also to cater to two distinct age groups.

Choosing the Right Bike for the Job

Unlike the Urban Arrow which used an internal gear hub, the Tern longtail models are conventional 10-speeds with a derailleur. This arrangement is stronger, cheaper to repair, and handles loads better. We've not yet found a hill that it can't get up, even carrying children, and our yardstick is Murray Street, Red Hill. Up to two passengers can sit behind the rider either straddling a bench seat, or infants can be strapped into a child seat such as the Yepp Maxi which is recommended by Lug and Carrie. The longtails have a more compact form factor than the conventional box bike, making it suitable for multi-modal trips by train. The steering also feels more natural, and akin to a conventional bicycle, as there is no steering rod required to connect the handlebars to the front wheel. The Tern models have small 20 inch wheels which allow a lower centre of gravity and accommodate shorter stature riders, both of which maximise its appeal to riders of differing strengths and sizes. Tern borrows clever features from its folding bike pedigree to make the ride equally comfortable for taller riders with quick release adjustments to the cockpit. Almost as quick as adjusting the mirrors before operating the family car.

Riding the Dutch-style front loaders with my children was joyful and fostered closeness when they were younger. Particularly when they were still learning to talk and the non verbal cues were even more important. My youngest travelled rear facing from circa 15 months and as his primary carer for one day a week, we spent that time riding riverside bikeways from South Brisbane to New Farm. These were treasured times, not just for us, but for the community, with frequent smiles and conversations along the way. These wide and relatively straight riverside and creekside paths were also the optimal environment for cruising on the large box bike.

We sold our Urban Arrow in January 2025 as we found that it was not getting as much use as it once did, and that we would usually favour the more nimble longtail when making trips by bicycle. Our plan was to acquire a second longtail from Lug and Carrie with a Yepp Maxi seat for our youngest. In the meantime our heads were turned by the recently launched Riese and Muller Carrie, a compact front loader which had become available on subscription. We took it for a test ride from Woolongabba to Kangaroo Point via the CBD and returning via the V1 veloway before committing to a longer trial subscription.

The form factor of this e-cargo was only slightly larger than the Tern GSD, and a clever clam shell front box made it even smaller when not carrying passengers. Our youngest loved this bicycle and we found it just as nimble as the Tern GSD. Unfortunately the design proved less suitable for our older children who felt cramped in the smaller box, and their heads would get in the way of the handlebars, forcing them to lean forward uncomfortably. Thankfully the low commitment subscription from Lug and Carrie allowed us to return this model and it moved on to another family with younger children. The differing requirements as the children grow up is one key benefit of the subscription model, but also of a strong secondhand market for quality bicycles which will serve multiple families over their lifecycle. We replaced the Riese and Muller with the purchase of a refurbished Tern GSD which had been retired from the Lug and Carrie subscription fleet. We had previously taken up the option to buy out the first Tern GSD for an attractively discounted balloon payment.

Hence we've arrived at the present situation where we have two Tern GSDs which are identical platforms, but with differing accessories to suit the two age groups. One of the older children can comfortably straddle the small bench seat in front of the youngest child's Yepp Maxi, and both of the two older children or one adult can comfortably straddle the full length bench seat on the other unit.

Everyday Benefits of E-Mobility

Ultimately adding e-cargos to our transport mix has been a lifestyle choice that has worked out really well for us, and we would like to increase the opportunities for others to try it out and make it work for them.

Most of our trips are local: commuting to school and work, attending sports and cultural activities, medical appointments, grocery shopping, and visiting local businesses. It would not be possible to do the jobs that we do with the bicycle, including carrying up to 70kg of the most

precious cargo, without electric assistance. Without it, the distances and hills would make travel tiring, and the journeys would quickly become chores, converted to car trips.

The benefits we derive are numerous. Physically, I typically ride in Tour mode on our Bosch system, the second-lowest assistance, to maximise fitness and maintain regular exercise which also releases endorphins that improve my mental health. Riding is usually less stressful than driving in stop-start city traffic, and we avoid the hassle of finding parking. Electric cargo biking provides more consistent door-to-door travel times, reducing uncertainty and stress.

We also enjoy a stronger connection with nature and community. Riding creekside and parkland paths allows us to enjoy the outdoors, stop and observe our surroundings, and share the experience with our children. Unlike car travel, we can stop to talk to neighbours who are walking or riding. Random encounters, even at traffic lights, foster community ties in ways that driving does not.

We live more locally due to our car-lite lifestyle, choosing nearby businesses over travelling across the city for trendier options. We've also gotten to know the proprietors and staff, which further reinforces our sense of community connection.

We've enjoyed cost-of-living benefits through reduced diesel use and less wear and tear on our car and its components, including tyres. We've also avoided the need for a second car, which would have introduced additional costs such as finance, insurance, and registration. Our single family vehicle, a Kia Carnival, is used sparingly for local and longer trips (including transporting our e-cargo bikes), covering under 10,000km annually. Every journey we make involves a conscious decision about how we are going to get there, rather than just automatically choosing the car. Often, the car is the right tool for the job, but we're fortunate to have a variety of tools in our kit, and the lived experience of using them.

We also use public transport regularly, especially since the introduction of 50-cent fares, and the ability to take our bikes on the train further extends our options for long distance trips or where there are often missing connections in the cycle network.

Another benefit of e-cargo bicycles is their utility in logistics. I often use our bike to move gear around the soccer club, or to pick up supplies for sausage sizzles. With the ease of parking, I can pick up a gas bottle or tray of snags far faster than a car could manage. While cargo bike logistics are underutilised in Brisbane, it is encouraging to see uptake by organisations like Domino's and Australia Post.

Holidaying by E-Mobility

Earlier this year we holidayed in Tugun on the Gold Coast, largely because of the Oceanway. We managed to secure a beachfront unit for a week where we could fully enjoy its amenity. We rode regularly to playgrounds, beaches, surf clubs, and destinations as far north as Burleigh Heads, and as far south as Tweed Heads. We were especially struck by the independent mobility of teenagers, many using e-mobility to reach the beach, work, or shops. This

independence, comparable to their older P plate, ute driving counterparts in Brisbane, was heartening. It was fantastic to see this age group in particular outside and off their screens. Most of the behaviours and interactions on the Oceanway were positive. We did observe some minor behavioural issues but thankfully nothing like the scenes that social and tabloid media tends to amplify. Still, providing safe, independent transport options for youth and seniors alike can ease transitions both into and out of car usage, extending autonomy. Many people I meet have given up driving for medical reasons but maintained independence through e-mobility.

Barriers to E-Mobility Adoption

We were disappointed to discover the lack of secure bicycle parking at Currumbin Wildlife Sanctuary. Upon enquiring with staff, we were informed that no such facility is provided, despite the sanctuary's prime location adjacent to the Oceanway. This seems like a missed opportunity, given the clear synergy between the two amenities and the potential to attract more visitors arriving by bike or e-mobility. Bicycle parking is highly space-efficient, and as National Trust members we receive complimentary car parking, yet there is a lack of equivalent support for sustainable transport choices. While some bicycle racks are located in the main car park, they lack passive surveillance and miss the chance to promote low-impact travel through prominent placement.

This is just one example of the recurring barriers we face when choosing non-car options for family outings. Another is Newmarket Swimming Pool, where access is as unfriendly to bicycles as it is to wheelchair users. Cyclists often resort to chaining bikes to boundary fences, a poor solution, particularly when using high-value electric bikes. Ironically, signage at the pool's entrance reminds drivers to park legally on busy days, highlighting the pressure that could be eased through better multimodal access.

More positive examples do exist. The State Library of Queensland provides secure, well-located bicycle parking directly adjacent to its pedestrian entrance, with strong visibility to passers-by and the security team inside. My youngest and I made weekly trips there for Rhyme Time, another treasured memory made possible by thoughtful infrastructure. Our local Ashgrove Library also provides excellent bike parking and could serve as a model for other community facilities.

Policy Opportunities for Queensland

I'd like to see stronger government support to foster the growing interest in e-mobility for families and cargo purposes. The e-mobility grant was a welcome initiative, but is unlikely to deliver a modal shift if we continue prioritising car-based transport. For comparison: this was a \$2 million fund, versus \$45 million for the Zero Emissions Vehicle Rebate Scheme. Two- and three-wheeled vehicles not only reduce emissions but ease congestion and parking demand.

According to BloombergNEF (2023), electric two- and three-wheelers displaced approximately 1.08 million barrels of oil per day globally in 2023, accounting for about 60% of the total oil

demand avoided by electric vehicles. This is roughly 2.6 times the displacement achieved by passenger electric cars.

I'd love to see support for subscription models like Lug & Carrie, and funding for a community cargo bike library, allowing families or businesses to trial options before committing to major purchases.

I'd also like to see safe spaces created in our cities and towns for e-mobility. Too often, residential streets are overrun with rat-running, which creates stress, danger, and pollution for residents and negatively impacts property values. Reducing vehicle speeds and traffic volumes in these areas would not only make space for non-vehicular transport, but also allow children greater freedom to explore and play in their communities. While retrofitting cities with widespread, separated infrastructure may be unfeasible, we can achieve a double benefit by meaningfully reducing traffic intensity. This requires more than cosmetic treatments like advisory “local traffic only” signage—we need decisive measures that prioritise people over through-traffic.

Finally, in the context of family cycling, I urge the committee to clarify helmet laws for infants in e-cargo bikes. In other jurisdictions, there are specific adaptors and bassinets designed for this purpose. Many mums I speak with ride through pregnancy and are keen to resume post-partum, but current rules limit safe, legal options. These rides can be gentle and safe, akin to pushing a stroller along a riverside path. For our family, it was stressful trying to balance safety, legality, and the realities of infant physiology. The technology exists to securely mount car seats inside box bikes, less protection than a car, but more than a stroller, and at similar speeds.

Summary of Recommendations

Our family's experience with e-mobility highlights several key issues that we respectfully submit for the committee's consideration:

- 1. Support active travel for health and wellbeing** E-mobility promotes regular physical activity and supports mental health by reducing travel stress and encouraging outdoor engagement. This lifestyle fosters community connection and healthier routines for all ages.
- 2. Deliver traffic and parking relief** E-bikes shift short local trips from cars to more space-efficient modes, reducing congestion and easing pressure on limited parking. Supporting e-mobility is a cost-effective way to optimise existing infrastructure.
- 3. Create space for living** Reduce vehicle speeds and volumes in residential streets to reclaim them as community spaces. Decisive traffic calming and modal filters—beyond token signage—can restore safety and play opportunities for children while enhancing property values and liveability.
- 4. Clarify helmet laws for infants** Current Queensland legislation lacks guidance for infants travelling in cargo bikes using internationally accepted restraints such as car seats or bassinets.

Clarity and accommodation would support safety, equity, and uptake among families with very young children.

5. Address policy imbalance in funding While e-mobility grants are welcome, their scale is dwarfed by four-wheeled EV subsidies. Greater investment in two- and three-wheeled electric transport would reduce emissions and oil dependency, ease congestion, and improve access for a broader segment of the population.

6. Support flexible ownership and trial models Encourage growth of subscription and library-based access to cargo bikes—like the model pioneered by Lug and Carrie—to reduce financial risk for families and allow better matching of equipment to life stages. This flexibility also strengthens the secondhand market and supports industry resilience during equipment failures.

7. Provide end-of-trip infrastructure Secure, convenient bike parking—particularly for larger and higher-value e-cargo models—is often lacking, even in locations well-served by active travel networks. Targeted funding and design guidelines are needed to remove this recurring barrier.

8. Enable mobility across the lifespan E-mobility provides independent, affordable transport for youth, non-drivers, and people who have ceased driving for health reasons. Supporting safe, dignified, and accessible options for these groups enhances social inclusion and community participation.

Thank you for the opportunity to share our experience. We hope our story contributes to a safer and more supportive e-mobility environment for all Queenslanders.

References

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