



Ride With GPS try it you will not be disappointed!

Your [Shortcut to this months RWGPS Routes](#)

Sunday Pleasure Rides: Organiser – Helen Tetley. The Sunday Pleasure Ride webpage has been **updated** with [modified guidelines](#). Please take time to make yourself aware of the guidelines. For any queries, please contact Helen on 0466 870 177

June 11th 2023 Lanes, Paths & Alleyways Meet at the northern side of [Croydon Railway Station](#) at 10am. Flat ride covering a series of lanes, paths & narrow alleyways around Adelaide. Approx 43km. BYO lunch. Coffee afterward. *Helen T. 0466 870 177*

June 25th 2023 North East Exploration

Meet at [Thorndon Park Reservoir](#) car park, Hamilton Terrace, Newton (Opposite Rezz Hotel) for 10.00am departure. Nth East Exploration 40.6km. Lunch enroute. Coffee option at Rezz Café. *Sven H. 0410 271 717*

Thursday Rural Rides Thursday rides are regularly 20+ riders; in hill topography that creates a challenge. To compensate each ride will have a 2nd leader so we can split into 2 comfortable groups if needed. - [Sharon Moyle](#) Thursday Ride Organiser

Jun 1 st	Ros	0448 741 556	10 a.m. Bridgewater oval	Some unsealed roads	
Jun 8 th	Peter B	0491 705 816	10 a.m. Woodside Pool car park	Some unsealed roads	
Jun 15 th	John A	0438 523 560	10 a.m. Woodside Pool car park	Some unsealed roads	
Jun 22 nd	Sven	0410 271 717	10 a.m. Woodside Pool car park	Some unsealed roads	
Jun 29 th	Don	0428 566 745	10 a.m. Woodside Pool car park	Some unsealed roads	

PERFECT Ride Sunday 18th June. Start 9 AM [Eudunda \(Centenary Gardens\)](#) 69 km mostly dirt roads 690 meters of climbing. Eudunda, Stock Route, Tablelands, Range Road, Hamden and back to Eudunda via Schutz Road *Peter H 0448 364 138*

Club Meeting Nights Next meeting **Tuesday 27th June we dine 6:30pm meet 7:30pm**. SARCC venue for our next meetings is moving because of renovations to the Kings Head Hotel to [the Cumberland Hotel](#) 205 Waymouth Street. We meet in boardroom 2 upstairs and we're able to buy drinks/order meals on the ground floor in what is called the 'Beer Garden'. SARCC Club Members meeting night is a great social occasion that stimulates camaraderie, and we learn a lot from guest speakers or our own club members. We now hold meetings in hotels, adding the optional dimension of eating a meal together. SARCC's special guest at our Tues 27th June club meeting will be Bill Dragos who was the bike mechanic (a notice) for BikeSA's recent two-week-long Outback Odyssey. He travelled with us and was on hand 24/7 with his van in some very remote areas, attending to and fixing any of the 200 ride participants' bike issues. An eBike owner himself, he'll be happy to answer any eBike questions you may have.



Club Tours

New Zealand 2024: *Eric needs 1 more volunteer for vehicle administrator PLEASE, eric@outlook.com.au 0402 356 796.*

Expressions of interest in New Zealand tour now open to BikeSA Tuesday Traverse and Retire Active (who will need on 1 July to take up \$30 SARCC membership) emailed to eric@outlook.com.au RSVP 18th June 2023

Arrive 21st February 2024 depart 6th March 2024 cost estimate \$1300 each,

- Rides on RWGPS. 8 new rides, plus 5 great rides. There is a shorter version available of most rides.
- Walkers could hike the Routeburn 3 days, Hike the stunning Hawea Breast Hill. Tourist can ride the Trans Alpine Railway, can fly Franz to Wanaka alpine scenic and a long list of interesting, some scenic, some physical, non-riding adventures.
- Only 7 locations, we stay, 2 or more nights each. No bunks, 4 per cabin maximum. Hired NZ bikes are power boosted to 32kph.
- Bring your own bike, hire a bike, or buy an ebike & take home. (Save \$1300 on hire, gain 5% exchange, lose \$600 AU battery)

Canberra Tour 2023 Anticipated dates are from 25th to 30th October 2023 and ride routes are being worked out. If you have some time before commencing the Canberra tour, the [Murray to Mountains Rail Trail](#) in North East Victoria provides some scenic cycling, stretching from Wangaratta to Wandiligong, with optional side trails to Rutherglen and Beechworth; accommodation suggested in the towns [Myrtleford](#) and [Bright](#). After the Canberra tour, an additional bike tour in East Gippsland is being considered, affording some cycling along the rail trails in that region from Bairnsdale to Orbost, and in and around Lakes Entrance. Anticipated dates are from 7th to 11th November 2023. More exciting news to come watch this space!

For Sale as new. \$3000 firm. (Cost \$4600) contact Mary Safe - bikes4dm@bigpond.com

Whether you're after an all-weather, comfortable and sporty E-Commuter, like to roll rail trails on the weekend, or just enjoy cruising the bike paths, the Avanti Explorer range of E-bikes has you well covered. All E2 bikes have powerful Bosch electric motors with hidden internal batteries, providing pedal-assist up to 25kph' hydraulic disc brakes for powerful and controlled braking, lightweight frames with an upright sporty ride position, rear carrier racks, full fenders, sturdy kickstands and e-bike battery powered lights.

KEY FEATURES OF THE EXPLORER-E2 LOW E-BIKE

- ✓ Bosch's Active Line Plus motor gives pedal-assist to 25kph.
- ✓ A long range, fully internal 500Wh battery will extend your commutes or bike path or rail trail further.
- ✓ Fully equipped with e-bike powered lights, rear rack and full fenders for any weather or light conditions.
- ✓ Adjustable rise stem for a perfectly tuned handlebar height.
- ✓ Selle Royal saddle has Royal Gel inserts for the ultimate in comfortable riding.



AVANTI EXPLORER E2 MEDIUM (1500 kms)

Grampians cycle touring report - 24 - 30 April 2023

Participants : Marianne Hibbert, Don, McDonald, Derek Hooper, Jo and Greg Lamey

This seven-day camping and bike tour around the Grampians provided an opportunity to test bikes, muscles and camping gear.

The Grampians was lush with vegetation, full of stunning rock formations, creeks with waterfalls and it has many walking tracks. The roads varied from some bitumen, good dirt... to 4-wheel drive only. The latter being marked as a dashed line on the map.

The first night we camped at Stapylton campground in the Northern Grampians, and we did a warm-up walk to the lower reaches of Mt Stapylton to stretch our legs. The next day we five intrepid cyclists set off with our fully loaded bikes. These were configured with a handlebar bag, rear panniers and tent and other gear strapped between the panniers. They felt heavy!

Our first day was to be an easy 29km. After riding 8km, we met the lead vehicle from a peloton of 20+ fire service trucks! A burn-off was scheduled. We could continue, but the road would be closed behind us and radio confirmation was made that we were out.

Next challenge was Chinaman's track, a 4wd track that ARPA had done approximately 12 years ago. Anyone for a challenge I asked? All said yes ... well, 7km of mostly up, steep, eroded track with humps reduced us to walking and hauling the loaded bikes, sometimes two manhandling one bike. It took us 3 hours and we were wrecked. A learning experience! 4wd tracks with fully loaded bikes is a definite no-go. We staggered into Smiths Mill camp and promptly decided to stay two nights and not do the rough track with 750m climb planned for the next day.

Day two we walked to the fabulous McKenzie Falls in the morning and attempted to ride around Lake Wartook in the afternoon. ARPA had also previously ridden this, however this ride had too much water on the track and we retreated. We rode to Wartook on the other side.

The campgrounds were quiet once Anzac Day was over. They have toilets, a cold shower facility, fire pits and some tables. Wildlife was a bit too friendly. An Emu stealthily snuck up and swooped on Marianne's carefully rehydrating and covered dinner. (&^%)*^\$!! A chase with non-contact missiles ensued! Luckily a spare dinner had been packed!

The trip proceeded south to Strachans Camp with a ride to walk the Chimmney Pots which are massive sandstone stacks that form cliffs. The following day we rode in the drizzle to Halls Gap. Hot showers, a pub, fine food, a brewery with live music and the footy for Derek! Creature comforts.... We also walked the wonderland circuit the next day, through the rock formations and past creeks and waterfalls in glorious sunshine. At the top we had magnificent views across the valley.

The final day we avoided any dashed line tracks and rode around Mt Zero and the Northern Grampians back to our cars.



Creek crossing beside Lake Wartook



Lake Wartook the easy way...



MacKenzie Falls



Running repairs - with fencing wire



Greg Lamey sincerely enjoying a rare bit of bitumen



MacKenzie Falls



More Falls

"An Emu stealthily snuck up and swooped on Marianne's carefully rehydrating and covered dinner. A chase with non-contact missiles ensued!"



The following Article written by Eric Chaney is not necessarily the view of SARCC club.

This Article was motivated by the President of [Bike SA in a recent newsletter](#) notifying of the ORSR insistence of 40% women on Sports administration bodies. On 18 December 1894 the South Australian (SA) Parliament passed the Constitutional Amendment (Adult Suffrage) Act. SA was the first electorate in the world to give equal political rights to both men and women. On 24 June 2010 the 25th and first female governor-general of Australia, Her Excellency Ms Quentin Bryce AC, swore in the 27th and first female prime minister, Ms Julia Gillard. This day marked a milestone in Australian politics with women filling the two highest positions in the nation, 116 years after women first obtained the vote in South Australia. No Woman SA Premier yet. An apparent inequality in SA is recognised by ORSR who have insisted on 40% women on governing sports bodies to be eligible for Grants – ORSR CEO is a woman, as is the Minister for Sport.

“SA’s Office for Recreation, Sport and Racing’s 40% Women in Leadership Board [gender diversity position statement](#):^{<link}

Office for Recreation,
Sport and Racing

i.e., [ORSR](#)

[Copied Notification](#)

[Program-Guidelines.](#)

[\(orsr.sa.gov.au\)](#)^{<link pg9}

The business case for increasing the number of women in leadership has long been argued. Board diversity is gaining greater momentum, but women still remain grossly underrepresented within these important leadership positions. In South Australia, women make up 51% of the population but they form only a minor percentage of board members in the State. This is despite evidence that corporations with more women in key decision-making positions deliver better business performance. Research indicates that gender diversity on boards leads to better informed decision-making, more effective governance, new ideas, opinions, solutions and stronger connections with the community, stakeholders and the workforce. Sport and recreation, with its gender balanced participation, is in a unique position to capitalise on the social and economic benefits of achieving greater gender balance in leadership.

The Office for Recreation, Sport and Racing has implemented the minimum 40% women in leadership initiative to shape the composition of state sport and recreation organisation boards, to encourage gender diversity and effect change. Organisations who currently receive the Office for Recreation, Sport and Racing’s State Sport and Recreation Development Funding have been informed that they are expected to meet this target by **30 June 2023**. To maintain **their eligibility** for the State Sport and Recreation Development Program **Funding**, state level organisations must continue to adhere to the board gender diversity target on their governing body board. Not for profit organisations including community sport and recreation organisations such as clubs and associations will be required to meet the minimum of **40% women on their governing board/committee by 30 June 2025** to be eligible to receive Office for Recreation, Sport and Racing funding.

No, No, NO! Appointment or election to a Board should be based on a person’s ability, NOT their gender! We must remove barriers and encourage all eligible members to seek office. We must not discriminate against any Sex, Gender, Race, LGBTQIA+, Disability, or where our ancestors were born. To appropriately achieve equality, first recognise inequality, then respect, value, encourage, educate, and eliminate by changing attitudes and culture. **Democracy is a system which powerful decision-makers in governments or entities are selected through fair and periodic voting procedures in which all manner of candidates are free to compete for votes, and all adult citizens or members have the right of one person one vote.** E.g., in a [representative democracy](#), every vote has equal weight, **no unreasonable restrictions can apply to anyone seeking to become a representative** and the freedom of its eligible citizens is secured by legitimised rights and liberties which are protected by an Australian Constitution or your Entities rules. This article required me to review morals, ethics, and human rights. We inherit our morality from family, community, religion, or culture we are raised in, it’s a relatively automated set of rights and wrongs. Ethics is a process of reflection in which people’s decisions are shaped by their [values, principles, and purpose](#) rather than unthinking habits, social conventions, or self-interest. Human Rights: the big one is individuals shall be treated as equals before the law, without prejudice. The law is different, it’s not a morality in the strict sense of the word because, **at least in democratic nations**, it tries to create a private space where individuals can live according to their own ethical beliefs or morality. Instead, the law tries to create a basic, enforceable standard of behaviour necessary for a community to succeed and in which all people are treated equally.

Our democracy privilege must always triumph against any altruistic good idea! Australia [don’t have a Bill of Rights](#) to [protect our citizens](#).

An offhand question: Will Government also wrongly manipulate/mandate quotas of a particular Race, LGBTQIA+, Disability, or where your ancestors were born? How will we be required to establish the bona fides of each nominee e.g., with the requirement of “40% women” does that mean only a biological female adult? Quotas may encourage longer-serving members which can inhibit new ideas, opinions, solutions, status quo decision-making, less effective governance, with selective connections with the members, stakeholders and Staff. Boards find it helpful to ensure a constant supply of ‘new blood’ to the Board to maintain Board engagement, relevance and rigour; this must be balanced with the need to protect the corporate memory of the entity. Boards often find it helpful to stipulate a maximum number of terms a director may serve. Not-for Profit entities that set a maximum term tend to stipulate 9 years, (or 4 terms of a 2-year duration). Limiting director tenure allows new directors to bring fresh perspectives and reduces excessive support for prior unsuccessful decisions. Convincing long-serving directors to retire from a board can be difficult where there is no constitutional reason for doing so. The directorship may have become the last link the director has with their previous business life or their highest prestigious achievement. At the same time, they might have become emotionally bonded with the organisation – it has become an important part of their life - it is their ‘raison d’être’. In these circumstances, seeking to have the director step down from the board can be fraught with difficulty – both with the individual and how the action may be perceived by the person’s friends and supporters in the organisation. Needed are policies which allow the entity to celebrate and acknowledge the contribution, such as awards, honorary life membership or other form of ongoing non-director close association.

Summary: All of this leads to ensuring every Club you are a member of has in its constitution and culture:

1. **A culture of encouraging diversity** including knowledge and skill to contribute to its Board or Committee. But not a mandated quota - no board member wants to be a token occupying a seat to fill out numbers to satisfy an imposed government condition.
2. **limit of tenure** of its board members. Many studies of Commercial Boards indicate **9 years** is the optimum length of best service.
3. A sliding 4-year term for the Chair or President with **2-year apprenticeship** as Vice President followed by **2-year as President** followed by an optional 2-year board or committee role is a widely used successful mechanism to maintain corporate memory.
4. Bring **guest members** into board meetings and/or **subcommittees** with non-board members to introduce potential new Board members.
5. Prior to an election period ensure a **Board discussion** is held and that constitutional notice is complied with and encourages candidates. A profile and **manifesto** of each nominee is desirable to circulate to members or shareholders.

Do we need Suspension forks on Gravel Bikes or the straight-bar equivalent? ... The Answer is No!

But here is who should consider front suspension forks: (note the first bicycle front suspension fork appeared in 1990)

Riders regularly exploring extremely rough or singletrack trails or who want maximum traction or comfort to enhance their rides. Ultimately, the terrain you want to ride is the main thing that should drive your decision. A suspension fork will expand the capabilities of most bikes and is an automatic inclusion on an MTB encouraging you to venture onto rougher roads and singletrack trails that would be less fun on a rigid bike. Places with long, rough trails like Melrose MTB, Queen Charlotte Track, or Rock Gardens anywhere, are prime terrain for suspension forks. The Machismo spirit drives you to be daring *Pause...* (What is "Machismo for women" it isn't "Marianismo" that's worshipping feminine virtues like purity and moral strength – is it "Girl Power" – your answer?) Therefore: The Girl-power spirit drives you to be daring with rapid descents over rock gardens. If you tackle, thumps, rocks, tree roots and wheel ruts at speed then you need suspension and maybe even with rear suspension. Then to pedal your, fat wheels and tyres, dual-suspension, strong frame, MTB uphill you probably desire a powerful electric motor with a big battery - now it will be too heavy to enjoy as a +26kg e-bike.

For riders who are 90% on sealed or gravel roads and crusher dust trails a suspension fork probably isn't necessary. The likelihood is that you will be **better to have wider tyres say 38 to 50mm and quality handle grips that will absorb most** of the corrugations you will endure, and you will be breezing along on a much lighter bike. You can have it both ways, a lighter bike that is a pedelec and if comfort is still a primary concern, there are light options you can add to your bike - a seat post suspension or maybe a suspension stem - often seat post is enough. Suspension seatpost typically offer a 10-50mm of travel by way of an elastomer, internal coil, or air spring system. *Note the Aluminium unsprung seat post you are replacing weighs up to 300g.*

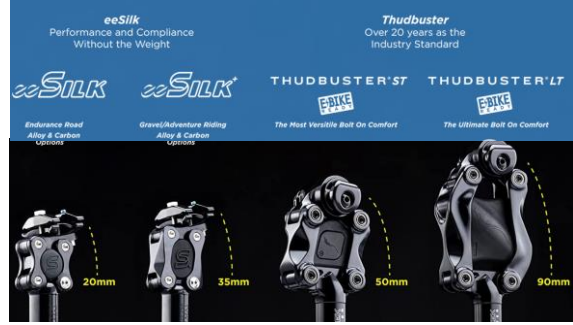
Described here are the three main types of suspension seat posts:

<p>Elastomer suspension seatposts use a solid rubber "bumper" that cushions a hinged linkage or other type of system. The rubber pillion compresses with the linkage and dampens bumps and hits. Simplicity and a better rebound are the benefits of these types of posts, rubber elastomers may wear out over time. Simple to carry a spare for many of the more popular options, such as the Cane Creek Thudbuster</p> 	<p>Coil spring suspension seatposts are only a handful of options out there. Similar to elastomer suspension seatposts, they use a hinged linkage or stanchion tube set system, but instead of a rubber elastomer, they feature a coiled metal spring to provide the dampening. The downside when compared to an elastomer seatpost is softer coils can rob some of the power from the pedal downstroke, and there is a sharper rebound.</p> 	<p>Air Dropper suspension seatposts are the newest kid on the block. And while it may seem like way too much going on in a seatpost, for those who are accustomed to a dropper, it's hard to return to the old ways. Adding a bit of dampening suspension is a natural progression. There are only two options available right now, the PNW Coast and Redshift.</p> 
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Cane Creek Thudbuster LT Elastomer Suspension Seatpost
Length 400mm Dia 25.4, 27.2, 30.9, 31.6 mm

Where it all started and forever the MTB hard-tail favorite



eeSilk Performance and Compliance Without the Weight
Thudbuster Over 20 years as the Industry Standard

Endurance Road Alloy & Carbon Options
Gravel/Adventure Riding Alloy & Carbon Options
The Most Versatile Bolt On Comfort
The Ultimate Bolt On Comfort

20mm, 35mm, 50mm, 90mm

[Are gravel bikes better with some stem suspension?](#) <Video

Do gravel or touring bikes need Stem suspension plus Seat post suspension? - **maybe not!** Start by fitting the widest possible tyres to your bike, with comfortable hand grips before deciding to try a suspension stem. If you spend a lot of time on bumpy roads, a suspension stem can improve your comfort and may soothe sore wrists and shoulders. You have the most to gain if you ride with narrow tyres (less than 32mm) and drop Handlebars.

 <p>StaFast Air Sprung Stem 15-20mm travel // 367g (95mm) US \$350</p>	 <p>Redshift ShockStop Stem 10-20mm travel // 250g (90mm) US \$99</p>	 <p>TranzX Antishock Stem 4-6mm travel // 198g (100mm) US \$135</p>
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REDSHIFT
ShockStop Suspension Seatpost provides 35mm of tuneable, responsive suspension travel for bump-eating spring comfort. Ride more comfortably on your bike **AUS\$364 weight 547grams**

SR SUNTOUR
The **NCX seatpost** offers 50mm of travel. The stock standard or medium spring is rated for riders between 64-82 kg. You can purchase different springs depending on your weight. The blue spring is rated for 64kg- the red spring is rated for 82kg+. Customize with preload adjustment at the bottom of the seatpost. A robust heavier but cheaper alternative. **AUS\$155 weight 839grams**

ADJUSTABLE SADDLE POSITION & ANGLE
REMOVABLE MUD GUARD
LINEAR PRELOAD TO SET STIFFNESS
SWAPABLE SPRINGS TO ADJUST FOR BODY WEIGHT

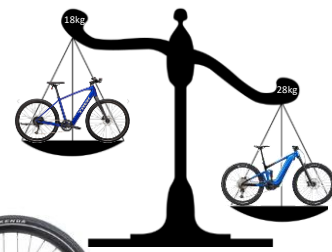
P.S. I forgot **SPECIALIZED** devotion to Carbon, Zerts and higher prices. They might be right; it is devotion to weight reduction that drives their technology with comfort as a by-product. But if weight is your worry and 18mm travel enough it could be an answer. AU\$250 with weight less than your bikes original seatpost, it is full FACT carbon.

Summary: In one page it is impossible to display all of the comfort possibilities and options available (e.g., Tranzx Antishock QL seatpost) and we haven't considered seat types or bike fitting. Please do your own research and keep in mind that unless you are determined to ride rock gardens that really do need dual suspension:

- wider tyres up to 50mm and quality handle grips will absorb most** of the gravel corrugations you will encounter.
- rubber elastomers wear and need replacements but they have a **slower rebound and less bounce** than springs, both are adjustable.

The light brigade... "This is the weigh!"

Specifically, six e-bikes under 18kg



↑ Merida E-Sylix +600 Gravel ↑

↓ Merida E-Speeder +200 ↓



↑ Trek Dual Sport +2 E-Bike ↑

↓ Trek FX +2 E-Bike ↓



↑ Orbea Vibe E-Bike ↑

↓ Specialized Turbo Vado SL5 ↓



	Merida E-Sylix +600 Gravel	Merida E-Speeder +200	Trek Dual Sport +	Trek FX +	Orbea vibe	Specialized Turbo Vado SL 5
Weight	14.5 kg	14.5 kg 😊	17.4 kg	17.7 kg	17 kg	16 kg
Price	AU\$4500	AU\$3600	AU\$3000 😊	AU\$3000 😊	AU\$3200 😊	AU\$7400 😞
Motor 250W	Hub MahleX35 40Nm	Hub MahleX35 40Nm	Hub Hyena 40Nm	Hub Hyena 40Nm	Hub MahleX35 40Nm	Mid SL 1.1, 35 Nm
Sensors	PAS Torque sensor	PAS Torque sensor	Torque sensor	Torque sensor	PAS Torque sensor	Not published
Control/display	top tube 1 button iwok	top tube 1 button iwok	Bar Left thumb 3 button	Bar Left thumb 3 button	Bar Left thumb 3 button	Topbar+handlebar+display
Battery	252 Wh in downtube	252 Wh in downtube	250 Wh in downtube	250 Wh in downtube	250 Wh in downtube	320 Wh in downtube
Range extender	Mahle 208Wh option	Mahle 208Wh option	Hyena 250Wh option	Hyena 250Wh option	Mahle 208Wh option	160Wh option
Drivetrain	Shim' SLX, 40T	Shim' 42T	Shim' Altus 42T	Shim' Altus 42T	Forged Alloy 42T	SRAM 42T
Cassette	Shim' SLX 11-42T	Shim' 11-36T	Shim' 11-36T	Shim' 11-36T	Shim XT 11-46T	SRAM NX 11-50T 😊
Brakes hydraulic	Shim' disk 160mm	Shim' disk 160mm	Shim' disk 160mm	Shim' disk 160mm	Magura disc 160mm	Tektro disc 160mm
Tyres	Cont' 650 X 47B	Cont' 700 X 40	Bont' 650 X 50 😊	Bont' 700 X 40	Kend' 700 X 45	Nimbus 700 X 38
Handlebars	Drop 420mm 😞	Flat 620mm	Flat 660mm	Flat 660mm	Flat 700mm	Flat
Forks	Rigid carbon	Rigid carbon	Rigid Aluminium	Rigid Aluminium	Rigid carbon	Carbon+ future shock
Frame	Aluminium	Aluminium	Aluminium	Aluminium	Aluminium	Aluminium
Lights	option	option	Lights to see with	Guards, rack, lights	Lights to be seen	Lights to see with
Cabling		Internal cabling	Internal cabling	Internal cabling	Internal cabling	Internal cabling
Options	Pulsar ONE display	Pulsar ONE display	link to Phone	link to Phone	Pulsar ONE display	

Note: All the above bikes are available in NZ "buy an ebike & take home. (Save \$1300 on hire, gain 7% exchange, lose \$600 AU battery)"

Torque vs Cadence Sensors on E-Bikes:	Torque Sensor management of power	Cadence Sensor management of power
This is important and there is no solution to which is best for you. I favour Torque sensors or a software combination, please link and read to understand the options:	Measures how hard you are pedalling	Measures "if" you are pedalling
Torque vs. Cadence Sensors on Electric Bikes or Get to know about 'torque' & 'cadence'	More expensive but better system	Basic pedal-assist
	Smooth and Quick response	Can be jerky and delayed
	Intuitive response	Counter intuitive – fewer pedal revs provide less support e.g., climbing
	Prolongs battery Life	Reduces battery life
	Increases range	No significant improvement to range

Ride With GPS 📶 try it you will not be disappointed!

Something different, boring, heavy, but new tech for the commuter: **a constant velocity automatic transmission, belt driven**, bicycle. [Amsterdam GT eBike – Lekker Bikes Australia](#) (This article is to inform that automatic bicycle transmissions are already being sold in Australia.)



Amsterdam GT eBike

Makes light work of heavy loads. Takes trips in its stride. It's powerful, stylish. It'll take you to work and back. Even on that gravel trail. Should be a reliable, comfortable, low maintenance, easy to use, clean (no oily chain), commuter bike.

FACT: (Note, only 0.3% difference in circumference.)

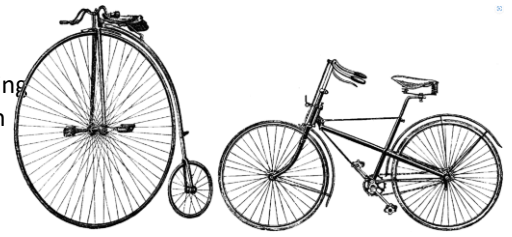
Rim	Tire	Rim(ISO)	Wheel	Circumference
700c/29er	32 mm	622	686.00	2155.13
650b/27.5	50 mm	584	684.00	2148.85

Motor	Bafang Mid motor, 80Nm Torque
Removable battery Standard:	570Wh capacity (16Ah, 36V). Range: up to 100km
Tyres	WTB Riddler 700c x 45 Black
Weight	23.0 kg
Brakes	Premium Hydraulic Disc Brakes TEKTRO 160mm
Gears	Enviolo City hub (310%), 2450 grams (2017 Nuvinci rebranded Enviolo)
Drivetrain	GATES CDX Belt - front 55T rear 22T i.e., 2.5 ratio
Price	AU\$3998.00 + \$400 accessories + \$500 est' for Automatic

Not a light all-purpose bike like the six above, a commuter bike with power and gearing through the CVT transmission has nominal ratio range: **310% (0.55-1.7)**. Automatic maybe optional. Claimed only to boost 25kph. Top 1.7 ratio would at 60rpm pedalling produce 33kph cruising. Starting/Climbing relies on motor support but has economical cruising hence range claim 100km. Low: 2.2M wheel circumference X (60rpmX60min) X 2.5 belt ratio X 0.55 transmission ratio = 10.89 kph High: 2.2M wheel circumference X (60rpmX60min) X 2.5 belt ratio X 1.7 transmission ratio = 33.66 kph

A look at bicycle transmissions.

We started with our legs straddling the connecting frame our feet on the ground, scooting two wheeled contraptions along. We progressed to a large front wheel with cranks each side connected to an axle and wheel with a small trailing wheel (Penny farthing). The safety bicycles in 1885 had no gears and chain driven to the rear wheel. The back wheel cog being fixed with the free wheel coming to being in 1894. The gearing was achieved by a larger ring up front connected by a chain to a smaller rear cog.



Bicycle gearing innovation had started – by putting a different cog size each side of the rear wheel with a horizontal axel slot a gear change was possible by turning the wheel around – clumsy but a start. 120 years later we have a plethora of gears to ride with.



The Bicycle Industry has given us a single chain ring a dancing chain (derailleur) and 5 rear cogs, then advanced that to 2 rings up front and 7 on the rear wheel, along with MTBs we improved to 3 rings up front, and 9-cassette gears on the rear wheel. But with a change of heart about weight we then returned to the “compact” 2 rings up front and 9-cassette gears on the rear wheel. We now have returned to 1 ring up front and 12-cassette gears on the rear wheel. Albeit the “one-by” system required more flexible chains and long exposed derailleurs to handle a 12-cassette cluster of 10 to 52 teeth. The desire to exceed **500% ratio** and weight of the drive train motivates the industry. Meanwhile Hub gears 3 Speed Sturmey-archer evolved all the way to 14 speed Rohloff.

NOW WHERE IS THE BICYCLE INDUSTRY HEADED TO WITH GEARS?

HUB GEARS – why important? More so for epic touring bikes and commuter e-bikes Hub’s reliability and ability to be driven by carbon toothed belt drive systems places them ahead of the DIY maintainable chain driven cassette systems with their exposed derailleurs. Why is **500%** the magical number? It is mathematics, a bicycle wheel has a circumference of say 2.1 metres and 60 cadence(RPM) pedalling for 60 minutes with cogs 63 front 24 rear 2.625 ratio (Rohloff ratios 0.279 to 1.467 = 525%). So the equation is:

$$2.1 \times 3600 \times 2.625 \times 0.279 = 5.54 \text{ kph lowest speed}$$

$$2.1 \times 3600 \times 2.625 \times 1.476 = 29.29 \text{ kph highest speed}$$

There are 3 variables, **wheel/tyre size**, **RPM(cadence)**, **cog ratio**. 500% gear ratio has a big impact on climbing and top speed. With a higher climbing gear of 7.5 kph your 500% takes you to 37.5 road speed.



Rohloff
Withstand 750W, 130Nm.
14 speed 525%
Disc brake.
Carbon Belt or Chain
Suitable all mid motor E-Bikes



3X3 NINE
Withstand 250 Nm.
9 speed 554%
Disc brake. E Shift
Carbon Belt or Chain
Designed for mid motor E-Bikes



Kindernay
Withstand 1000W, 160Nm.
14 speed 543%
Disc brake.
Carbon Belt or Chain
Suitable all mid motor E-Bikes

The in-betweens:

Classified 2 speed hubs with its 0.7 ratio it reduces the need for a two-ring compact duo on the crank.



A slick newcomer for road bikes with an electronic button push to drop from a 50T ring to a 35T equivalent ring.

A brilliant device that is too expensive to be realistic on any bikes except higher priced carbon road bikes.

Schlumpf Drive crank mounted gear shift 1:1 to 1:1.65 gear ratio or 1:1 to 2.5:1 reduction gear ratio. Again, a method of reducing the need for 2 or 3 crank rings to achieve the magical 500+% range. The switch to change ratios is a button or lever you kick with your foot.

The Schlumpf 2 speed reduction seems to have gained a small market with the MTB riders.



The in-betweens have potential to reduce the high damage risk of large 52T rear cassettes and long exposed dangling derailleur arms.

These in-betweens have greater relevance in non-powered bicycles.

Special Mention:
Shimano Alfine 11 spd Brilliant cost-effective unit, not ebike strong enough!

Suit mid motor 40 Nm only, Disc brake, 409% range, Carbon belt or chain

GEARBOXs: All ① mount in place of bottom bracket crank, ② offer Chain or carbon Belt drives, ③ eliminate rear cassettes & derailleurs.

<p>Effigear</p>	<p>Valeo</p>	<p>Pinion</p>	<p>Intradrive</p>
<p>9 Gears 469% Range Max input torque 250Nm</p>	<p>7 Gears 450% Range Built in 250W motor. Mated with Effigear gears Known as Valeo Cyclee Automatic gear select available.</p>	<p>18 Gears or 12 Gears or 9 Gears 636% 600% 568% Max input torque 250Nm Electric shifting -Smart.shift Expect built in motor soon. Light weight 6 speed 295%. Most Advanced Gearbox maker.</p>	<p>8 Gears 470% Range Built in 250W motor. 500W Max electronic gear shifting. Retro fits to Shimano EP8 mount.</p>

Range is not as critical when hauling uphill is aided by power boost rather than extreme cadence on ultra-low gears. Fewer gears results in gear steps of a rather large 24%. E-Bikes accelerate faster, it’s not uncommon to find yourself changing 2 or 3 gears at once. The larger gear steps solve this problem but make most current motorised hubs less suitable for regular bikes.