



Letter from the Editor

There's not a lot happening on the HPV front here in Tasmania at the moment but I've been very encouraged to make contact with a few travellers.

A friend here hailed down and sent over a couple mentioned in a previous HUFF when visiting the Perth Group. They were on Greenspeed trikes coming from Darwin and have been tripping round Tassie with the hope of also going overseas next year.

Also Jean Seay, the IHPVA secretary from the USA dropped in on her whirlwind ride to Hobart on her Greenspeed trike.

Maybe we'll hear something of their adventures in following HUFFs.

Timothy Smith

News

* In the last HUFF it was reported the 99 HPV can be purchased for \$35. The pricing has been revised to \$35 for non-OzHPV members and \$25 for members. Obtain the CD by writing to Duncan Cleland, Treasurer, Ozhpv Inc. Po Box 1662 Woden ACT 2606 together with a cheque and address for the delivery of the cd. A note with the cheque should say "X\$ for '99 cdrom enclosed, Please advise Ian H. that payment has arrived" (Ian Humphries from Sydney is copying and distributing the CD's)

* **The NEW Oz HPV Inc Post Office Box.**

At the last AGM all positions on the committee were open. We hoped some more positions would move interstate so for the good of Oz HPV we took up the challenge of decentralising a couple of the positions and moved to Sydney.

Continued Page 6

Development of Midnight Special by Mike Dennis

Since carbon fibre is not a widely used material in OzHPV, I thought I might share with you some of the development ideas for my trike as seen at the OzHPV Challenge last year.

Chassis Design

In designing the new midnight special I wanted to cure some problems of the original carbon fibre Midnight Special, particularly regarding torsional rigidity, turning circle and chain path.

I decided to try to eliminate running the chassis under the seat as is traditionally used. It seemed possible to run high chassis rails from the front kingpins, under my armpits and hence to the rear wheel. Several curves would need to be put into the tubes to allow a reasonable steering arc which is quite easy with carbon and I tapered the rails towards the rear because I could. This design essentially triangulated the three wheels and ensured that the entire chassis lies in essentially one horizontal plane right through to the boom. Thus there was less twist in the chassis and less material usage. An upshot of this is that there was also less resilience which meant for a harsh ride. The front X-member just fits at axle height without rubbing on the back of my legs but there's only 5mm clearance. Lucky. The front of the seat has been raised to give a flatter riding position, better chain path and more ground clearance. I also included a small rear X-member for seat mounts and to add a little stiffness. This allows an intermediate drive to be added at a later date.

The old trike had an even weight distribution of 25kg per wheel. The wheelbase is now shortened at the rear by 125mm to put more weight on that wheel (braking) and to shorten the torsional moment of the wheel on the chassis. That made a notable difference in both cases. I find the comfort and pedaling position superb. A small foam hump in the seat back effectively prevents me from moving up the seat. My neck is supported which I find I prefer given the flat riding position. I am surprised that this is not more common amongst recumbents. The steering paddles provide very direct control via wrist only movements giving excellent "feel" and sensitivity. I slightly decreased the gearing of the steering from the original trike to around 0.9.

In this issue

News	1
Development of Midnight Special	1
Trike vs Bike Speeds.....	3
Jean Seay's visit to Vic	4
Victorian HPV's new Website	4
2000 Challenge.....	5
Reflex Fairings	5
For Sale	6
Paul Sims leaning Trike	7
Communicating with others on the Internet	7
Coming Events	8

The carbon tubes were filament wound over a laminated MDF core. I developed a spreadsheet to predict bending strength and weight of these tubes. The actual tubes turned out about 10% heavier and weaker than expected due to poor construction technique on my part (no oven or vacuum compression) but they were enormously stronger than the old trike for the same material usage.

The front X-member still had some flex due to a very thin cross sectional depth. This flexing was mainly a bending strain, not a twisting strain. I could increase the X-member depth but the problem would still be there to some degree. I will most likely use a carbon brace rod to triangulate the end of the boom with the lower seat mounts to solve the problem. That should make the trike go better from a standing start which many of the Challenge events required. (I had assembled the trike only days before the Challenge)

If you watched the trike closely on tight corners you would see the outside wheel flutter under side load, leading to understeer. The wheels themselves are very well supported by 12mm sealed cartridge bearings and steel kingpins. I built the Aluminium front hubs on a lathe and pressed some sealed cartridge ball bearings into them. Although they are very narrow hubs, I use 36 spokes on each wheel so they are well hung. The problem has been traced to resonance in the 10mm tubular Aluminium steering cross arm. Wrapping several layers of carbon around this arm should cure the problem and allow the trike to corner harder. Bending of this arm under load also caused wheel alignment problems, some temporary, some permanent which hampered the performance of the trike in most events during the challenge. By the end of the Time Trial, the front wheels had 10mm toe out!!! Very bad. Midnight Special scooped a complete set of 20" IRC Roadlites in the one weekend although there was some paddock work on the skidpan. Back to Ian Sims for some more I guess.



Photo by Steven Seller - M0708

The wheel covers were made from shrink-wrap plastic sheet. It is tricky to get an even finish but I feel that they do work. By how much I don't know but I felt the trike sailing down the straight into a 3/4 cross wind. On the flip side, the trike would wholesale translate across the road in a gust of cross wind which made for a very interesting 200m sprint – the finish gate kept moving on me!!

Gearing was about right for racing. I've spun out top gear to just over 80km/h near Geelong and bottom gear goes down to about 12km/h. It could use one lower gear and closer ratios than the 7sp cluster provides. It was great that the trike was remarkably stable at high speed, the old trike was very scary over 70km/h due to chassis flex. Attention to the chainline reduced the previous three pulleys to one.

Rear caliper brakes were exchanged for a Nexus rear hub brake which is very heavy and requires a lot of lever travel but is great for doing handbrake skids. Stopping power has gone from terrible to bad. For racing, braking performance is not critical but I would put discs on the front if I took it out on the road.



Photo by Steven Seller - M0709

Here are some stats if you're interested:

- Castor 10 deg
- Camber 0 deg
- Seat angle 25 deg
- Wheels 20" x 11/8
- Gearing 67T chainwheel – 12:28T cluster
- Track 650mm
- Wheelbase 1250mm
- Crank Height 400mm
- Weight 10.5kg

Once the above problems are fixed, I will be very happy with the design and performance of the trike. What next?? Perhaps a monocoque chassis integrating fairing and seat. It will be called "2:00am Special".

Mike Dennis
Mike@faceng.anu.edu.au

Trike vs Bike Speeds

by Ian Humphries

The ACT HPV Challenge held in Canberra each November has always been a good testing ground for HPVs with events testing out aspects of design, speed and practicality. The Challenge trophy to overall point score winner has been shared by trikers and bikers. So the obvious question(s) often asked are: "Which is faster/better/more practical?"

I've participated since 1995 when I rode an upright tandem bike. In 1996 it was a borrowed lightweight Greenspeed low racer SWB bike (Paul Sims' Grasshopper), in 1997 and 1998 it was my own low racer SWB design based on the designs of Dries Baron's Optima Baron and Bram Moen's M5 European low racer bikes. In 1999 I had a new Ian Sims' designed Greenspeed Road Race Trike, the GLR model, to play with.

So... uniquely I have been in a position to compare, albeit indirectly, the fast HPVs I've ridden in past Challenges.....Or more specifically to compare myself on a Greenspeed GLR Road Race trike vs myself on my self-built Low Racer Bike. A pretty even match?

Trike vs Bike design

Both 'bents have an approx 20 degree seat angle (from horizontal). The trike seat is mesh, the bike seat is Aluminium sheet with 5mm foam padding. No difference in seat comfort when stationary, but on the road the trike seat, with its "suspension shock cord", is much more comfortable by a big margin. The Aluminium seat feels a little firmer in a sprint though. The SWB seat height is about 270mm above the ground, the trike a little lower. The SWB has 451/622 wheels and 28mm and 20mm tyres, run at 100 and 120psi. The trike has 349mm and 406mm wheels with 37mm tyres all round run at 100psi front and rear. The trike has slightly lower gearing (28"-115" vs 31"-123") because its a road going "race" machine. I don't use my SWB low racer on the roads as the ride from the narrow rear 120psi tyre is quite harsh and the rear wheel is a bit too lightweight for general riding. My other SWBs with racks, lights etc. are IMHO better for that anyway....

Time trial

Standing start time trial on the hilly 2.6km Sutton course:

1995 - 3 minutes 48 seconds 41.05km/hr (Muscle Mike Dennis as stoker!)

1996 - Timing error / no accurate time recorded.

1997 - 3 minutes 51 seconds 40.52km/hr Low racer SWB.

1998 - 3 minutes 43 seconds 41.97km/hr Low racer SWB.

1999 - 3 minutes 53 seconds 40.17km/hr Greenspeed GLR trike.

Firstly, I consider that 1998 was the year I was at my fittest at the Challenge. Secondly IMHO, there's not a really significant difference in any year's time between any of the HPVs I've used.

As always the condition of the engine is more important. Less than 1km/hr at the most, if any at all between the trike and bike.

The tandem was fast because

1. both Mike and I had our noses on respective handlebars - obviously a quite unsustainable/uncomfortable position and
2. Mike is a real powerhouse!

Sprinting

I'm not a sprinter but.....Flying 200m sprint into a strong gusty headwind. Only 1999 results presented because conditions have been quite different year to year....

1999 - 12.57 seconds 57.28 km/hr Low racer SWB.

1999 - 13.30 seconds 54.14 km/hr Greenspeed GLR trike.

Notes: Only one run allowed - my SWB 200m run felt good - the trike run wasn't my best - the difference in MAXIMUM sprint speed I think is a little less than shown, probably under 2km/hr. I used LOOK pedals on the SWB and SPDs on the trike.

The LOOKs felt much better for sprinting and the seat was firmer, the wind might have been different.....Sorry I couldn't standardise things a bit better!! One thing I should mention about the Greenspeed seat design - when riding normally you can take advantage of the shock-cord suspension design and when sprinting or climbing you can push directly against the vertical tubes of the shoulder-neck support which are firm and this offers a good power position. I forgot to do that though I think.

Long distance

Average speeds, under similar conditions, on the trike seem pretty similar to my low racer SWB. I used my SWB low racer for the 6 hour event in Canberra in 1998 and the trike for the wet and cold 6 hours in 1999. The SWB was quick and comfortable enough but the vibration from the rear end made me think either a fatter tyre there or some rubber damping between the seat and frame would be a good idea for such long events.....

If I chose only one for a long distance ride it would be the trike, it would be faster and safer on the open road and it has a super comfy seat and the I-have-nothing-to-do-but-pedal-and-steer-effortless-and-relaxing-ride.... The trike was easily the best choice for me for the 1200km in 3 days of Paris-Brest-Paris. see: http://sunsite.anu.edu.au/community/ozhvp/audax_club_parisien.htm for my P-B-P ride report.....

It is interesting to note that the Europeans are really "into" low racer SWBs and use a variety of them, from different manufacturers, even for commuting and touring. I can understand why - they are fast and lots of fun to ride. The laid back seat angles do make a very comfy touring position. The continental European low racers always use hard fibre-composite material seats though and so resort to suspension on front and rear on such machines. Many people arrived in Interlaken with all their camping gear strapped aboard their low racer and then raced on them (like I did with the trike!). Maybe a two wheeler with a mesh seat and no suspension might be almost as good... but IMHO on cobblestones or rough roads either suspension or my trike would be the best - the trike just "floats" over bumps! Truly fantastic! The UK made Festina low racer does indeed have a mesh seat and can be run with fat tyres but its seat is not as reclined, though recent models seem more reclined than previously - perhaps 25-30 degrees. The Festina and the GLR seem on a par speed-wise.

The rolling resistance component of the speed equation is, I am sure, actually less for the GLR trike than my bikes - it is quite apparent on bumpy roads that the trike travels much more "smoothly" than any of my bikes. I think that this is due to the trike rolling left/right and it not having to lift my weight up and over each bump quite so much. When aerodynamics plays a bigger part at high speeds, the bike is probably just a bit ahead.

And so now if I rank the 'bents I own in terms of outright speed on smooth roads we get :

- 1) Low racer SWB, 20 degree seat.
- 2) Greenspeed GLR, 20 degree seat.
- 3) SWB 40 degree seat (lightweight wheels/tyres)
- 4) "Commuter" SWB 40 degree seat (heavy wheels & FAT tyres)
- 5) LWB "Cruiser" - not very aero, but looks "cool" ;-)

But, if the road is not smooth, well lit, or has the potential of sand or gravel..... the order changes! ;-)

So as a my final note, IMHO seat angle makes a great deal of importance to speed and the aero drag of the extra/third wheel of a trike makes, I suggest, less difference than most people think, especially if the trike uses only 349mm diameter front wheels.

For photos of both of my 'bent racers, if you aren't familiar with them already, see

<http://sunsite.anu.edu.au/community/ozhpbv/>

Ian Humphries

Jean Seay's visit to Vic

On the 4th of February this year, Ian Sims from Greenspeed hosted a barbecue in Ferntree Gully to celebrate the visit of Jean Seay from the United States. Jean is co-editor of the international HPV News and a great inspiration. She is "71 years young" to quote Ian Humphries "She is here in Australia to pick up her new lightweight Greenspeed trike and to travel, tour and meet as many HPV riders as possible"

All of Greenspeed staff were present at the barbecue, plus a few others who'd come to show off their machines or just check things out. The car-park in front of the barbecue area was very steep and made for a precarious come-and-try area. Unfortunately the electric barbecues weren't working due to fire danger (temperatures had reached 40 that day) and electricity shortages so Pizzas and Fish & Chips were the go.

The newest bike at the meeting was Peter Wilson's "Wilson Recumbent" which he has manufactured in a first production run of 10. The bike is big, long-wheel-based and has 700C (27" or thereabouts) wheels. Steering is via a stepped-up chain drive making the front wheel turn more than the handlebars. From my short test-ride, I found this arrangement worked well.

Watch out for a review of the bike in Australian Cyclist. Peter was at the first Melbourne recumbent ride a few years ago.

Meeting international guests like Jean instills me with "the bug" to travel and tour on my bent, but judging from Jean's example, I have plenty of time.

Steve Nurse

Victorian HPV Website

The website for the Victorian HPV group is changing from its present place (my webspace) to more public webspace on VICNET. The change will mean the Victorian site will become more like the excellent WA, Queensland and Tasmanian sites with "mini websites" for OzHpv members, riders email addresses etc. It will also free up my own website for other-non-hpv stuff that is important to me: i.e. full catalogue of all my Barry Manilow LP's and CD's, pictures of my pet Amazing Live Sea Monkeys.

(ED. The new web site will probably be <http://www.vicnet.net.au/~vichpv/>)

Steve Nurse

2000 Challenge

On February 5, myself and Paul and Frai Sims from Greenspeed visited Shepparton to assess it as a possible site for the 2000 challenge. We met Mark Francis there: he is the Manager, Major Events and Promotions for the City of Greater Shepparton and he showed us the sites where the challenge could be held:

* DECA (Driver Education Centre of Australia). This is a closed road centre with skid pan, undulating road circuits, dirt roads, on site barbecue and plenty of room for come and try sessions and sponsors tents, car-parking etc. The circuit is not hilly so no hill-climb event is possible.

Cost of hire is \$1,000 per day. (We believe we can get more than this amount through sponsorship of the event by outside organizations). It's anticipated Saturday's events i.e. road venue, time trial, enduro would be held at DECA.

* Pedestrian Mall in Shepparton. This mall is usually quiet on Sundays with only a few shops open. (some of them the

"appropriate shops" i.e. Bakeries and Cafes.) Mark has given permission for us to use the mall for Sundays events i.e. (shopping race, twin drag, criterium, slalom). The mall has a P.A. System and a small stage for presentations etc. This stage and traffic management would be handled with the assistance of Shepparton Council Staff at no cost to Ozhpv.

* Victoria Park Caravan Park. The caravan park is on a lake and has a bushy section for tent campers: for this event, a large section could be reserved for challenge participants only. There are also cabins overlooking the lake for those who prefer not to camp.

At this stage we have booked Deca Shepparton for November 11 this year (Challenge dates to be November 11 and 12) and are continuing to organize the event, current activities are centered on approaching sponsors. If you are in a position to support the 2000 Challenge, phone Harry Gordon, 9753 3644 (BH, Greenspeed)

Steve Nurse

Reflex Fairings

Don Elliot recently sent in some information about his business D & H Enterprises Pty Ltd.

He said "Composites (Fibreglass, Carbon etc.) is my trade. (25 years experience) I teach composites at Chisolm TAFE College and have a part time family business consulting, restoring fibreglass sports cars, designing and racing HPV/Hybrid teams.



I am happy to advise members with regard to composites. Reflex Fairings and MR Components are part of the Southern Alliance which competed in the 1999 World Solar Cycle Challenge"

Specifications:

	700	850	1000
Width	730mm	850mm	1000mm
Height	900mm	900mm	900mm
Length	2.7m	2.9m	2.8m
Weight	13kg	14kg	15kg
Cd	0.12	0.12	0.12
Price	\$2620	\$2790	\$2980

D & H Enterprises Pty Ltd.
 RMB 6315/156 Bittern Dromana Rd
 Merricks North Victoria 3926
 Ph (059) 897 296
 Fax (03) 59897576

Southern Alliance 1998 - 24 hr winner with Mr Components Aluminium chassis trike and reflex 700 fairing.

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Continued from page 1 - News

We being Lindsay and Paul Segal, Membership secretary and Secretary respectively. Generally these 2 positions receive more post than all the others together. Lindsay was usually the one who checked the PO box anyway so we decided after appropriate consultation to take it with us.

The new postal address for Oz HPV Inc is

Oz HPV Inc
PO Box 1053
Auburn NSW 2144

* Trisled are now selling a SWB recumbent bike. Read more about it on their Web site at <http://www.trisled.com.au>



* This pic is a trailer taken of a guy caught at Gympie riding from Cairns to Coolangatta to raise awareness for young people in a farming project. Have a look at this very well built homebuilt trailer he was lent from a local clergyman at Gin Gin to complete his trip. Rumor has it that you can pick up this 102 L storage box from your local Supa Cheap auto store for under \$30 and simply add a 16" bike frame to it.

Darryl Shelswell



For Sale

* Brand new Greenspeed touring trike, only ridden twice. Royal blue frame. Top of the line components, including Campy bottom bracket, and crankset, Suntour brake levers, bar-end shifters, computer. Brand new rear wheel (never been used) \$3,500 aus\$. On display at Col's Bike shop in Canberra. Call Brad Saindon BH 6214-1031AH 6253-0005. saindonb@ausport.gov.au

* Windcheatah trike for sale in Sydney. Only 2 in Australia known to me, (both in Sydney). It is blue in colour and requires a little work to complete the current re-assembly. It comes complete with all running gear and a complete set of manuals to assist in any re-machining of parts required in the future. I am planning to move overseas later this year and reluctantly am unable to take it with me. Open to offers. Greg Phillpotts gphillpotts@netscape.net

* Recumbent for sale: A Dutch built Rolandt Superb, in excellent condition, painted silver, 5 speed derailleur with a two speed hub. Its got 26 inch rear wheel and 16 inch front but I have the original metric wheels as well, it has a glass fibre bucket seat with a sheepskin cover and I am open to offers.

Alan Naber Perth WA Ph 089 332 3956
Anaber99@hotmail.com

* Greenspeed short wheelbase bike, rare mid-drive, Sachs New Success pro road double derailleurs and crankset, 35 speed wide range/ close ratio gear system, Sachs alloy-hub drum brake system front and rear, above-seat steering, all-Reynolds 531 custom frame with powdercoating and mesh

30-degree seat, excellent condition, retail price is \$3700, make reasonable offer. How does half price sound? This is a very responsive, fast and sporty bike; lighter, more aero and more practical than a trike. Private sale. Please email me direct. Grant Sellek, Adelaide, grant.sellek@transport.sa.gov.au

* Mild Steel Weld-on brackets to attach 40 O.D. Bottom bracket shell to 35mm square tube. These brackets are made in 2.5MM mild steel and are available for \$12.00 Aus per pair plus p & h from Steve Nurse, phone (03) 94818290 cesnur@eisa.net.au or see this website. <http://www.eisa.net.au/~cesnur/page2.html>

* David Hulett salmitb@camtech.net.au has decided he has irreconcilable differences with his Greenspeed trike and has fallen in love with his Specialized MTB so wishes to part company with Greeny. \$2,500. The GS trike is complete and is a red 20-26 model with what looks like a 45 degree seat. If you know of anyone that is interested in a secondhand trike in immaculate condition let David know.

* Recumbent Bicycle, Aluminum bonded/riveted A-frame, 12 speed, USS, 20" front, 26" rear wheels, contoured aluminum/eva seat. Also included: tailcone, front windshield, fairing and 1" travel suspension. Optional Sturmey and Archer hub brake at \$50 extra. Raced at the HPV championships in 95/96 under the name 'Zen Yokel'. Ready to go at \$300 (ono) Contact Greg Rich, Katoomba, NSW Ph 02 47391075 or AH 02 47827335.

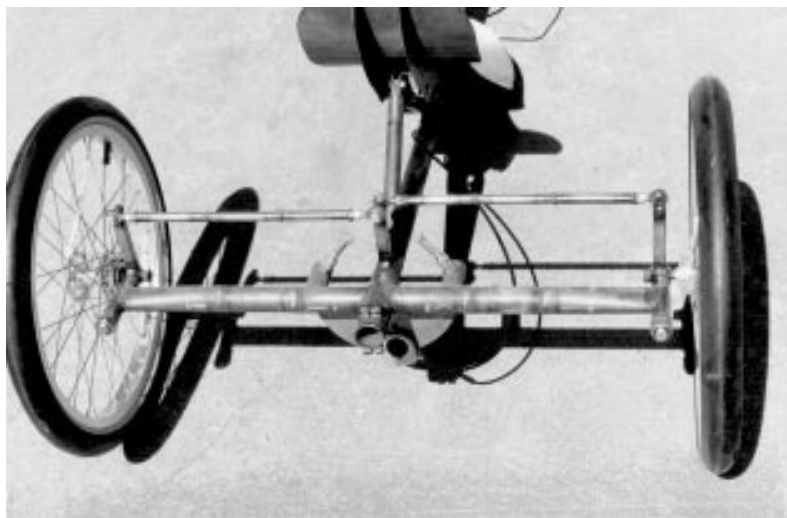
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Paul Sim's Leaning Trike

Here are a few photos of the leaning trike Paul Sims (rx1200@optusnet.com.au) plans to use for a circuit race in Australia. Paul says that right now it's a moving bottom bracket design but he's changing that when he adds the fairing. Should be interesting to see.

He said 'That was the prototype and I am in the midst of building a lower lighter race version for the upcoming event at Wonthaggi. I will endeavour to record the building process with photos too for interested people.'

(ED Maybe we'll see this in a future HUFF)



Communicating with others on the Internet.

There's quite a lot happening with HPV's worldwide (and here in Australia) but sometimes it's no so clear where to look. Internet email mailing lists are very popular and offer anyone to join up, read what others have to say and maybe ask a question or 2 yourself.

Some worth checking out are:-

- HPV - <http://www.bikeroute.com/HPVMailList.htm>
- Trikes - http://www.alaska.net/~mnewell/html/trikes_list.html
- Lowracer - <http://www.praxcomm.com/cr22.htm>
- Power assist - <http://cycling.org/lists/power-assist/>
- Amateur and professional bicycle frame building - <http://www.phred.org/mailman/listinfo/framebuilders>

Bicycle Touring - <http://www.phred.org/mailman/listinfo/touring>

I find that it's the text based component of the Internet that is the most help. In addition to mailing lists why don't you check out:-

- * Newsgroups (sometimes called Usenet or Discussion groups)
 - aus.bicycle
 - alt.rec.bicycles.recumbent
- * Bulletin boards
 - <http://pluto.beseen.com/boardroom/m/19718>
 - http://recumbents.com/Viewbook_whole_message_first_50.idc
 - http://www.mikemorgan.net/BikeE1_welc.htm
 - <http://www.trikers.org/pages/f-index.html>
- * Live real time chat
 - <http://chat.recumbents.com/chat.htm>

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Coming Events

WA HPV

Friday 3rd March: EVENING RIDE. Meet at Scarborough Beach (North end near the cycleway) at 6:30pm for a ride along the beaches to Hillarys boat harbour for dinner. Sunset over the ocean should be spectacular. Then back to Scarborough. Ride may be cancelled if its raining an hour before the appointed meeting times. E-mail Geoff Law geofflaw@bigpond.com or Gary King Ph (08) 93411381 ocean@wantree.com.au if you have queries.

Queensland Recumbent Enthusiast Group

Sunday 12th March, ride leaving from SANDGATE BAPTIST CHURCH cnr Flinders Pde & Cliff St Sandgate. Everyone's meeting at 8:30am. For any more info or directions phone Bevan on 3889 1184 or Darryl Shelswell Ph 0732033025 shelco@adlink.com.au.

Sunday 9th April, ride leaving from TOOMBUL SHOPPING TOWN LOW CAR PARK. Sandgate Rd Toombul. Everyone's meeting at 8:30am. For any more info or directions phone Ray H on 3843 2729 or Darryl Shelswell Ph 0732033025 shelco@adlink.com.au.

Sunday 7th May, MS Brissie to the Bay ride. MS fundraiser starts and finishes at Southbank. Entry fee applies, hoping for a TEAM entry. For any more info or directions phone Ray H 07 3843 2729, Bevan 3889 1184 or Darryl Shelswell Ph 0732033025 shelco@adlink.com.au.

Melbourne Recumbent Riders

Sunday 12th March: Belgrave area, Ph Fraiss & Paul, 9754 3590

Sun 7th May: Brunswick to Williamstown & return, Ph Rodney Williams 93742029

Sat 8th- Sun 9th April: Lilydale Station to Warburton and return. (Weekend ride) Ph Harry Gordon 97533644, 9764 9625

General info: Contact Stephen Nurse cesnur@eisa.net.au or Phone 039481 8290 ah

Sydney Recumbent Riders

Sunday 16th April, 9-11am at the cafe on Grand Drive in Centennial Park. 5 minutes ride from Central or Bondi Junction railway. Description: A gathering, chat fest and social ride. Demo rides available. Gatherings cancelled if raining at 8am.

Saturday 6th May, 9-11am at the cafe on Grand Drive in Centennial Park. 5 minutes ride from Central or Bondi Junction railway. Starts at Newtown. Sydney ride to Cronulla for lunch. Gatherings cancelled if raining at 8am. A joint ride/picnic/extravaganza with the Moulton riders club and tandem group of NSW and Bike Friday & Saturday riders. Ride to Cronulla on new bike routes. It wont be fast but it will be FUN. Any hpv/cycle welcome. Recumbent demo rides available. Insurance for event through BNSW. Distance: 30-50km

Check with Ian Humphries if unsure or needing more details. (02) 9550 2805 (home) (02) 9845 3988 (w) IanH@nch.edu.au

Wonthaggi HPV Grand Prix

Sat 18th - Sun 19th March: Further detail can be obtained from Peter Hanley Assistant Principal of Wonthaggi Secondary College (5672 1344) phanley@wonthaggisc.vic.edu.au Applications are currently being taken. <http://www.wonthaggisc.vic.edu.au>

OzHPV 6 hr Challenge

The 2000 Six Hour Challenge will be held on Sat 25th March (day before daylight savings) will be 12 hours 7am-7pm with (9am-3pm) shorter challenge within it. Venue yet to be established - probably public road circuit. <http://sunsite.anu.edu.au/community/ozhvp/996hr.htm>

If this Newsletter cannot be delivered please return to:

OzHPV Inc
Post Office Box 1053
Auburn NSW 2144

