Attraversiamo Let's cross over to Cycling Super Highways

The Cycling Super Highways Toolkit







By Rachel Smith In memory of Janet Brash The AITPM Janet Brash Memorial Scholarship

About Janet

'Janet has been an example to all in the profession, in her career and her life' Ted Vincent, VicRoads

The Janet Brash Memorial Scholarship has been created to honour the memory of Janet Brash who died in 2007 of breast cancer.

Janet joined the Australian Institute of Traffic Planning and Management (AITPM) in 1997 to further her professional development. Janet was one of the AITPM's strongest and most active supporters who gave her time generously and encouraged others to get involved. In her 10 years membership she was a committee member and President of the Victorian Branch and during 2004, whilst in remission, she was elected as National Vice President. Janet was a strategic thinker, customer focused, tough and tenacious, with a strong sense of justice for what was right and fair. In view of an outstanding professional career and for her magnificent contribution to the institute, the AITPM National Council established a perpetual scholarship in Janet's name to further excellence in traffic and transport engineering.

About Rachel

'Rachel is highly committed to the needs of cyclists and pedestrians' SunCoast Cycling Alliance, Queensland

Rachel Smith was awarded the 2008 Janet Brash Memorial Scholarship. Rachel has boundless enthusiasm for all things sustainable transport. Rachel has spent the last 11 years working in sustainable transport, travel behaviour change, cycle planning and congestion management in the private, public and community sectors in the UK and Australia. Rachel was retained as a UK Government advisor on three expert transport advisory panels for six years, developed 'life in the bus lane' in 1999, invented the 'all school hands –up travel survey' in 2000, won the BP Road Safety Award in 2003 for creating the '100 club' and quadrupling the number of children walking to school, was awarded a Walk to School Innovation Award in 2004 for her 'Ready Steady Road Safety' and 'Finding Nemo' travel behaviour change school assemblies, convinced Disney Playhouse TV to work with her during 2005 to develop a children's programme about the Devoran School walking bus and co-authored 'Roads for All' and 'Travel for Tourism' in 2006. Rachel moved to Brisbane in 2007 and is recognised as one of Queensland's leading advocates of active transport. Through her steely determination Rachel has raised the role of cycling from a 'filler-in-er' to an equal mode on many major planning and infrastructure projects. Rachel was the 2009 PedBikeTrans President and is an active member of the Queensland branch of the AITPM.

Rachel '*walks the walk and talks the talk*'; living in a rented energy-efficient unit in a higher-rise development, with dedicated cycle parking, adjacent to a multi-modal public transport interchange. Rachel lives 992m from her workplace and, of course, walks or cycles to work every day!

If we always do, what we've always done We'll always get, what we've always got.

Institute of Road Safety Officers Conference 2000

The dream is cities with Cycling Super Highways; cycle paths wide enough and safe enough for everyone, regardless of age, gender, physical ability or cycling skills, to be able to cycle wherever they want and whenever they want.

We are it. It's up to us to be the solution, so let's set the wheels in motion.

Rachel Smith, July 2010

This work is dedicated to Janet Brash and is the property of Rachel Smith and may not be used without written permission. The opinions in this toolkit are those of Rachel Smith. Rachel's opinions are not necessarily the views of the AITPM, the ConnectWest Consortium or any public or private sector organisation. International flights were funded by the AITPM Janet Brash Memorial Scholarship. All domestic flights, accommodation, bicycle hire, graphic design fees and other costs incurred were paid for by Rachel Smith.





In 2007 the ConnectWest consortium comprising of AECOM, Sinclair Knight Merz and Philips Group, were commissioned by the Queensland Government to develop a fully integrated multi-modal transport strategy for Western Brisbane. Two quotes inspired the ConnectWest team to develop a network of 11 metre wide 'Veloways':

"My dream has a network of bikeways with access to the CBD and parks. Bike routes along main corridors and cycle ways integrated into transport corridors" Mark, Brisbane Australia

"A protected bicycle path is a symbol that a citizen on a \$30 bicycle is as equally important as one in a \$30,000 car" Enrique Penalosa, former Mayor of Bogota

The width of 'Veloways' was questioned by many people and so the author of this paper Rachel Smith submitted an application to the AITPM Janet Brash Memorial Scholarship to address the 'width concerns'. The objectives of the scholarship were:

- To identify why cycling is not considered as a viable mode of transport in Australia
- Undertake an International study tour to discover what led to the creation of cycle networks in cities and to discover what width and types of cycle infrastructure revolutionised cycling to be a viable mode of transport
- To prepare a 'toolkit for implementing 'Veloways'.

This toolkit is divided into 9 chapters to:

Deliver the findings of the scholarship

Chapter 1 Discussing Chapter 2 Discovering Chapter 3 Decision-making

Disseminate a strategy to deliver Cycling Super Highways, as well as stimulating discussion and sparking lively debate!

Chapter 4 Desiring Chapter 5 Designing Chapter 6 Directing Chapter 7 Delivering Chapter 8 Decanting Chapter 9 Determining

'Veloway' was replaced with 'Cycling Super Highways' for three reasons:

1. 'Veloways' are associated with Velodromes and high speed cycling 2. 'Cycling Super Highways' are associated with capacity not speed

2. 'Cycling Super Highways', unlike existing infrastructure, caters for everyone; young, old, fast and slow, experienced and 'new' cyclists

Discussing

In Copenhagen, a city of 560,000 bicycles, 521,000 people and 35,000 cycle parking spaces

- 85% of residents own a bike
- 70% of residents cycle all year around
- 60% of residents use their bike everyday
- 60% of residents cycle because it's the fastest, safest, easiest and most convenient mode of transport
- 37% of commuter trips are by bike (more than 150,000 people cycling to work or school everyday)
- 25% of all families with two children own a cargo bike (a bike with a front cargo box)

So... why don't people in Australia consider cycling as a viable mode of transport?

"I don't cycle to work because the cycle paths don't join up. It's just too difficult" Bronwyn, Nundah

Conversations and focus groups with women, children and seniors in Brisbane (demographic groups who typically don't cycle) facilitated by Rachel Smith revealed reasons for not cycling for transport, which included:

- Lack of safe and dedicated cycle infrastructure
- Lack of end of trip facilities, information and legibility
- Traffic fears, risk of injury and personal safety fears
- Time pressures, journey time and distance concerns
- Personal physical ability, lack of cycling skills and effort required
- Topography, humidity and rainfall

"Cycle paths are designed for 'sunday afternoon' recreational cycling not 'transport' cycling" Michelle, Brisbane "All you need is a 'system and shower'... a system of safe cycle ways and shower at the end" David, Albion, Brisbane

Australians want complete separation from parked and moving cars





A study tour of 21 cities around the world revealed what led to the creation of their cycle networks. The study tour was to discover what width and types of cycle infrastructure had revolutionised and transformed a city into a 'cycling city'.

Each city visited had its own unique network of cycle infrastructure differing in width and typology. The common themes between each of the cycle networks are:

- 4.0 5.0 metres of 'usable' cycle space
- Commonly bi-directional cycle infrastructure
- Cycle infrastructure separated from motorised traffic
- Directness of routes
- Safe cycle facilities and treatments
- 'Easy to use'
- Consistent standard of infrastructure
- High quality surface treatments
- Legible directional and way-finding signage
- Constructed with or integrated into multi modal transport corridors with bus rapid transit, rail or tram
- Integrated into the urban fabric and streetscape
- Routes linking key destinations; the CBD, rail stations, employment centres, schools, universities, hospitals, shopping centres and sports facilities

'Postcards from Cycling Cities'

Adelaide, Australia

The Adelaide 'Southern Veloway' is a 3.0 – 4.0 metre wide bi-directional bike path for the exclusive use of cyclists (the width of usable space typically 3.0m -3.5 metres). The 7km long non-stop cycle path runs alongside the Southern Expressway between Darlington and McLaren Vale. The Veloway continues south for a further 12km as a shared (cycle and pedestrian) path. The Veloway, opened in 1998, is a legal entity that accords with the South Australian Road Traffic Act and only people on bicycles are permitted to use the facility. The Veloway provides important links to other cycle facilities in the area, has a well-maintained coarse asphalt surface and boasts magnificent views but does have challenging inclines in both directions of travel. Cyclists normally do not encounter pedestrians or vehicles on the Veloway, making it one of the safest cycle corridors in Adelaide.



Almere

Almere, Netherlands

Almere, on land reclaimed from the sea, is the newest city in the Netherlands. Cycling is recognised as key to enabling people's mobility and in supporting the expected population growth. Since the town was first planned, provisions were made for high-quality cycling facilities and from the outset an extensive network of cycle routes has been provided, including the 'Railway Path -cycle freeway' along the railway line which is the busiest route and 'backbone' of the network. Transport infrastructure in Almere is distinctive and

'recognisable' because each mode (cycle, pedestrians, bus and car) has separate and dedicated infrastructure. The separated cycle infrastructure is 3.0m – 5.0m wide bi-directional offroad cycle paths with colour surface treatments. Almere also has a cycle traffic model, developed using cycle count and cycle use data, to predict future cycle use by running alternative scenarios such as mode switch for short trips and increasing private car costs.

"Cycling is recognised as key to... people's mobility..."











"...almost all... residents own and use a bike."

Amsterdam, Netherlands

Amsterdam is one of the most bicycle-friendly cities in the world, a centre of world cycling culture and almost all of Amsterdam's 750,000 residents own and use a bike. In the 1970's, in response to the strong growth in motorised traffic and congestion, the bicycle was appraised as a viable mode of travel. In 1978, the city council opted to encourage the use of the bicycle and constructed the 'Main Bicycle Network'; a finely meshed system of cycle routes. In the 1980's an annual council budget was made available to enhance the cycle network and resolve infrastructure problems and in the 1990's the city authorities provided extra amenities for cyclists including cycle storage facilities at train stations. Today travelling by private car in the city centre is discouraged. Parking fees are expensive and many streets are closed to cars or are one-way. The transport policies, compact city, flat terrain and the 400km cycle network comprising of 2.0m wide one-way-pair on-road cycle lanes (a 2.0m cycle lane on either side of the road) on major corridors, 4.0m wide separated bi-directional cycle paths (separated by a white line, surface treatments or a low kerb), cycle streets and bicycle bridges have all helped to achieve a 40% bicycle mode share.



Bogota, Colombia

The former Peñalosa Government created CicloRuta; a 300km network of 3.0 – 4.0 metre wide bidirectional protected bicycle lanes, as well as adjoining pedestrian boulevards, at the same time as constructing TransMilenio; the famous high quality bus rapid transit system. The multi-modal transport corridors are supported by "Pico y Placa" a policy which bans 40% of cars during peak hours using car registration plate numbers, removes on-street car parking, provides cycle centres at bus rapid transit portals/interchanges, encourages medium density residential developments and established Cyclovia; closing 120km of Bogota's roads every Sunday for the exclusive use of cyclists and pedestrians. 5% of all trips in Bogota (7.5 million population) are by bike (0.5% before CicloRuta), mean cycling speeds are 17km/hr and 2 million people participate in Cyclovia each Sunday.

Copenhagen, Denmark

In the 1970's, Copenhagen was dominated by the car with public spaces being used for car parking. Copenhagen took an incremental approach to change; reprioritising road space and removing car parking to create cycle lanes, allowing people to gradually make changes to their travel habits. The results are Copenhagen Cycle Tracks which are slightly elevated from the road and separated from the footpath by kerb edging. The tracks are provided on both sides of the road (commonly named a 'one way pair') creating 5.0 metres of useable space (2 x 2.5m) per street. The increasing popularity of Cargo Bikes has resulted in the need to increase design standards with a minimum width of 2.8m/3.0m creating a minimum of 6.0m of useable space (2 x 2.8m/3.0m). On-street car parking and motorised traffic road space is removed to provide new cycle tracks. Each new cycle track results in 20% more cyclists and 10% fewer cars on the first day of opening (per segment). The 'access' focussed cycle tracks are complemented with a network of 'safe routes'; quiet residential streets and green routes through parks. Synchronized 'green waves' through traffic signals give cyclists priority at peak times on the busiest streets (those with 30,000 bikes per day). 1.2 million km are cycled in Copenhagen each day.

> "synchronised... traffic signals give cyclists priority..."



enhagen

Delft, Netherlands

Delft

In the late 1970s, Delft was chosen as a model/pilot for transport planning. Between 1979 and 1985, the first Delft bicycle plan was put into practice with efforts focussed on completing construction of a city-wide cycle network. The Delft cycle network is designed on three different spatial levels: city, district and sub-district. The city network, a grid of cycle paths 500m apart, has the highest cyclist volumes and due to physical barriers, such as the canals, has the most expensive infrastructure to avoid detours. The district network, with separated cycle paths (cycle paths are spaced no more than 300m apart) has two functions; to serve key destinations, such as schools, and to connect with the city network. The sub-district network, a fine grained network of cycle paths (with a 100 metre mesh width) connects houses and local amenities. The network consists of bi-directional cycle paths, on-road cycle lanes, cycle streets and bicycle bridges. The network hierarchy has been the key to success because it gives priority to urban centres and links between the different levels. Cycle facility comfort and safety has encouraged residents to cycle as a means of transport. 43% of trips are by bicycle, with 26% by foot, 26% by car and 4% by public transport.





Den Haag, Netherlands

Cycle planning in Den Haag has changed over the years with traditional mesh width cycling planning (providing a cycle path at hundred metre intervals) being discarded in favour of providing 'what is really needed'. Cycle path minimum width standards have been increased to 4.0m, based on traffic volume and distance to destination calculations and to account for cycle path congestion and overcrowding. Separated 4.0m wide bi-directional cycle paths are provided as part of new developments but 3.5m wide bi-directional paths are often provided as part of retrofitting due to infrastructure costs. Den Haag is implementing many schemes to increase cycle mode shares including new infrastructure under and over motorways to increase connectivity, providing safe cycle parking at train stations and schools and funding traffic teachers in schools to deliver safe travel training with cycle training available for 5 year old school children.

"...infrastructure... supported by an online journey planner..."



Exeter, United Kingdom

In 2005 Exeter was named one of Cycle England's six initial 'Cycling Demonstration Towns'. The government funding, the largest investment in cycling the UK had ever seen, and was given to transform towns/cities where cycling was a genuinely viable option. The 'More people cycling more safely and more often' vision was realised through new infrastructure including 2.5 – 3.0 metre wide off-road bi-directional cycle lanes linking major employment centres and schools with residential as well as widening existing footpaths to create 2.5 – 3.0 metre wide shared paths. The infrastructure was supported by an online cycle journey planner, workplace Bicycle User Groups (BUGs), 'learn or return' adult cycle training, cycle confidence classes, match funding for workplace end of trip facilities and personalised travel planning. In 2008, 9% of Exeter employees cycled to work (4% in 2001) and 20% of secondary school children cycled to school with no increase in the rate of cycling casualties.

Groningen

Groningen, with 57% of all trips made by bike, is considered by many as a 'World Cycling City'. The city has adapted to the wishes of city planners who wanted to eliminate ruinous traffic congestion and get around without a car. Removing city motorways and transforming the historical city centre from one that was a traffic roundabout to a place that invites cyclists and pedestrians, has created a people friendly shopping space, increased the number of shoppers, increased commercial rents, reversed the population outflow and led to numerous requests for more 'cyclisation' and traffic bans. The Groningen transport network configuration favours active transport and selectively 'filters out' the car. Certain streets are discontinuous for cars but connect to a network of separated off-road cycle lanes, cycle streets, shared spaces and pedestrian paths which permeate the entire centre. A vital 'tipping point' has been crossed in Groningen. Through sheer weight of cyclist numbers, the bicycle lays down the rules, slowing down traffic and determining the attitudes of car drivers. Cyclists are supported by narrowed or closed roads, advanced stop lines at traffic signals, car free housing and 'guarded' cycle parking garages.

Groningen, Netherlands

"...with 57% of all trips made by bike,... the bicycle lays down the rules..."







Houten, Netherlands

Houten, because of its unique urban planning and development, is often referred to as a world best practice cycling city. The railway station and shopping area is the core of the bicycle oriented city centre. A star-shaped bicycle and pedestrian network branches out from the city centre with direct 'backbone' routes to residential areas. Infrastructure is typically 3.0m – 3.5m bi-directional cycle paths with 1.0 – 1.5m wide adjacent pedestrian footpaths and cyclists have absolute right of way. Schools and important buildings are located along the 'backbone' routes. 31 residential districts are sited around the city centre at decreasing densities. Every house can be accessed by private car, but cars have to use the peripheral Houten ring-road to get from one residential area to another. Cycling is prohibited on the Houten ring-road but a network of underpasses and bridges provides safe crossing for cyclists. Cyclists and private cars only meet and mix in residential streets. No residential street is straight for more than 75m. 42% of all personal trips less than 7.5 km are by bike and 21% are by foot. Houten is cycle friendly and car friendly and has proven that 'utopia' works. Houten is a 'city of tomorrow today'.







"A star-shaped bicycle and pedestrian network branches out from the city centre....."

888888

"The Nesciobrug Bridge... is the longest exclusive bicycle and pedestrian bridge in the Netherlands."



ljburg and Steigereiland, Netherlands

The Nesciobrug Bridge, a 780m long bridge, is the longest exclusive bicycle and pedestrian bridge in the Netherlands. The bridge provides 5.5m of useable space; a 3.5m bi-directional cycle path and 2.0m wide pedestrian footpath. Bicycle access is provided by ramps and pedestrians can reach the bridge via stairs. The Amsterdam-Rhine Canal forms a barrier between ljburg and Steigereiland, both newly developed residential areas, and Amsterdam city centre. Cyclists are prohibited from using the Zeeburgerbrug (A10 motorway) bridge so the Nesciobrug bridge, adjacent to the A10, provides fast and direct cycle access. The bridge opened in 2006 and has received various awards for its elegant design.









Los Angeles, USA

The 32km long bi-directional South Bay Bike Trail, linking Santa Monica and Redondo Beach, was constructed to reduce conflicts between cyclists, skaters and pedestrians. The recreational cycle path is typically 4.5m wide (2 x 2.25m), has smooth asphalt or concrete surfacing and has separate pedestrian facilities. The bike trail has 'landing areas' to allow bikes to exit without excessive slowing or stopping. The Federal Highway Administration (FHA) found that separated bike paths are perceived by the public to be "the safest bikeway facility".

"...separated bike paths are perceived by the public to be 'the safest bikeway facility."



Malmo, Sweden

Malmo aims to be a world-leading climate city with ambitious goals to be run on 100% renewable energy by 2030. Malmo is a compact mixed land-use city that has made cycling easy with more than 410km of cycle paths. The cycle paths are typically 3.0m bi-directional cycle facilities through the city centre, and the cycle network is continually extended and enhanced, by testing solution to make it safer, easier and more fun to cycle such as installing radar detectors at more than 30 intersections that sense approaching cyclists and automatically provide a green light, and by providing air pumps at several locations around the city. 30% of all trips in Malmo are made by bicycle and 40% of Malmo residents, 'climate heroes' cycle everyday for their journey to work. The 'No ridiculous short car trips' marketing, education and information campaign helped to reduce car trips by 11%.



"Yarra has the highest level of non-car use... 37% of commuter cyclists are female."



Melbourne, Australia

The City of Melbourne is working to ensure the city can reach its full potential as a vibrant cycling city. Over the past decade, Melbourne and Victoria have established a substantial transport network with painted cycle lanes, wide kerbside lanes and off-road cycle paths. These have encouraged many to cycle on-road to and from work and for many other transport trips. Bicycle Victoria believes that attracting more people to cycle requires providing improved levels of infrastructure. The construction of the first separated on-road lane was completed on Swanston Street, between Melbourne University and city centre, in July 2007. The City of Melbourne is now pushing for the construction of more 'European Style Cycleways' in Melbourne. Yarra an inner Melbourne municipality, 5km from the CBD, has a fine-grained cycle network and densely developed urban form. Yarra has the highest level of non-car use for travel to work in Melbourne with a 6.9% cycle to work mode share. 37% of commuter cyclists are female.

Münster, Germany

Münster is often called the bicycle capital of Germany and the "Leeze", as it is known in Münster dialect, is the most frequently used means of transport. 37.6 per cent of all trips in Münster are made by bicycle. The city maintains an extensive network of bicycle-only paths and wide shared paths with designated pedestrian and cycling travel lanes. The Promenade, with a 4.5m bi-directional off-road, free-flowing and traffic-free cycle path encircles the center borough of the city and is popular for commuter, education, utility and recreational cycle trips. The bicycle network is extremely legible and signposted with red and white signs. Münster central rail station has the largest bike station in Germany with 3,300 cycle parking spaces.





STer



"The 'Snelbinder'... Iinking residents living in new residential suburbs with the main train station and city centre."

Nimegen

Nijmegen, Netherlands

In the Netherlands fast and direct cycle routes are vital for many residents particularly if origins and destinations are separated by a wide canal or a river. The 'Snelbinder' (Dutch for bicycle luggage straps and referring to a quick connection) is a 4.0 metre wide bi-directional segregated cycle facility alongside the existing railway bridge over the river linking residents living in new residential suburbs with the main train station and city centre. The bridge has reduced cross-river bicycle travel times by more than 10 minutes by cutting out a detour and has created a real alternative to travelling by car. The 'Snelbinder' bridge was not built directly onto the railway bridge, but assembled on a platform and then suspended and attached to the railway bridge.

Odense



"Odense has Denmark's highest share of cyclists, the longest bicycle trips and 80% of all children walk or cycle to school."

Odense, Denmark

The first bicycle path in Denmark was established in Odense more than a hundred years ago. Odense has 510 kilometres of cycle paths equivalent to 3 metres per resident and more than every fourth trip is made by bike. Ten years ago, Odense took the lead as the national Cycle City of Denmark to realise it's cycling potential and today cycling is synonymous with Odense. Infrastructure is given a high priority. Experience revealed the need for cyclists to get around quickly without too many stops and obstacles. In Odense separate cycle lanes typically 2.2m wide (2 x 2.2m) enable cyclists to converse and overtake safely and are so safe and convenient that they attract men and women, young and old. Odense has Denmark's highest share of cyclists, the longest bicycle trips and 80 % of all children either walk or cycle to school. The municipal road inspectors inspect all cycle paths by bike regularly. A special "bicycle-reporting-group" ride around with digital cameras and mobile phones to observe and report information so that infrastructure problems can be fixed immediately.





"...initiatives generated a 50% increase in bicycle mode share..."



Paris, France

The mayor of Paris, Bertrand Delanoë when elected in 2001 set out to promote greener modes of transport. 'Green Neighbourhoods' and 'Civilized Spaces' initiatives were introduced to reduce traffic in residential areas and redistribute road space by reducing the supply of on-street parking, introducing residential parking permits and establishing a network of bus and cycle lanes. The construction of physically separated cycle lanes, typically 3.0m wide bi-directional facilities, raised concerns about business deliveries and so special delivery zones were created with permits issued to business owners. The initiatives generated a 50% increase in bicycle mode share but the increase was not deemed visible enough to justify the expense of the bicycle infrastructure. Vélib, a public bikeshare system, with more than 10,000 bikes was introduced to make better use of the bicycle infrastructure and has successfully doubled the number of bike trips made in Paris. 3% of all trips are by bike and private car use has dropped 20%.

Perth







Perth, Australia

Perth's cycle veloway, a 3.0 - 3.5m bi-directional offroad, traffic free cycle path, runs parallel to Perth's suburban railway lines. The veloway links major destinations including the central business district, numerous rail stations, university campuses and schools, sporting stadiums and the Subiaco Transit Oriented Development.

"The veloway links major destinations..."

"Rottnest Island Bike Rottnest Island block Hire is the largest facility of its kind in the Southern Hemisphere..."





Rottnest Island, Australia

Rottnest Island, located 18km west of Perth prohibits private cars and so transport is dependent on cycling, walking and a limited bus service. Cycling is the popular mode of transport and as a result dedicated cycle facilities, such as the 2.0m wide bi-directional path at Longreach Bay, have been constructed. Rottnest Island Bike Hire is the largest facility of its kind in the Southern Hemisphere with over 1,300 bikes for hire.

Utrecht

Utrecht, Netherlands

Utrecht, the fourth largest city in the Netherlands, proves that regular cycling can be easy and fully integrated into the transportation choices available to travellers. With protected cycle lanes, separated off-road cycle lanes, smart traffic signal prioritisation and roadside enhancements that make it safe for cyclists. A culture which recognises cycling's place in the road hierarchy has emerged and car drivers who understand the rules has subsequently resulted in a robust cycling culture with 33% of all trips made by bike. Utrecht has also proved it is possible to provide good cycling infrastructure in old streets. Amsterdamsestraatweg

(a street) in Utrecht was designed by Napoleon when the Netherlands were part of the French Empire in 1812 and was part of the 'Route Impériale no. 2' which connected Paris via paved direct roads with Amsterdam. The street design has changed several times in the last 200 years but now contains off-road oneway-paired cycle lanes.

> "Utrecht has also proved it is possible to provide good cycling infrastructure in old streets."







'Snapshot' of Comparisons

City	Population	Area	Density	Bicycle mode share
Brisbane	2,000,000	5904 km ²	918/km ²	2%
Sydney	4,500,000	12,144 km ²	2058 / km ²	2%
Amsterdam	750,000	219 km ²	4459 / km ²	40%
Bogota	7,500,000	1587 km ²	4602 / km ²	5%
Copenhagen	520,000	88 km ²	6016 / km ²	37%
Delft	96,000	24 km ²	4180 / km ²	43%
Groningen	188,000	83 km ²	2324 / km ²	57%
Houten	46,000	58 km ²	819 / km ²	42%
Utrecht	300,000	99 km ²	3068 / km ²	33%

Approximate rounded data





Decision Making

Now or never?

The undeniable truth is that right now, Australian cities like many cities around the world are in a severe predicament: unprecedented population growth; sprawling low density suburbs, upsurges in master-planned and gated communities isolated from existing infrastructure, outpaced urban and transport planning; traffic congestion; unaffordable pay-as-you-drive taxes; underutilised toll motorways; overcrowded and overburdened public transport systems; dwindling transport infrastructure budgets, obstructive school-gate car parking; highway fatalities; out of town shopping centres; long distance commuting; obesity; heart disease; underfunded hospitals battling the symptoms of physical inactivity; rising fuel costs; energy vulnerability; changing climate patterns; natural resource depletion; housing unaffordability; rising food costs; financial uncertainty; unemployment; social exclusion and transport poverty. Cycling, unlike our current 'car based culture', can help in varying ways to address and tackle these challenges.

Cycling is easy, healthy, fun, convenient, affordable, has no emissions and could be a mainstream mode of transport in its own right for almost everyone; young, old, male, female, rich and poor.

Cycling networks benefit our existing transport network, our mobility system, our health, our environment, our economy and moreover can be implemented within one election period. Cycling can make a real difference by increasing travel choices, supporting the growth and cohesion of urban areas, enabling liveability and community building and can help manage the long term global challenges facing governments, businesses, communities and individuals around the world.

Cycling has the potential, right now - before it's too late to make a transport change - to create liveable cities where people are engaged, encouraged and enabled to cycle for many or all of their transport trips.

so... "Attraversiamo - Let's cross over' to Cycling Super Highways

Desiring

...some might say 'Dreaming'

Cycling: to ride a bicycle; a complete process

Super: excellent; having outstanding or excellent qualities

Highway: A direct way; a direct route or course

The desire is cities with Cycling Super Highways; cycle paths wide enough and safe enough for everyone, regardless of age, gender, physical ability or cycling skills, to be able to cycle where they want and whenever they want for work, for school and for shopping, sports and recreational trips.

The desire for Cycling Super Highways is as follows:

- The network of Cycling Super Highways radiates out from the 'centre' (for example; the CBD, major activity centre or key destination)
- Within 5km of the centre is a network of 10.7 metre wide Cycling Super Highways because 5km can easily be cycled in less than 15 minutes (cycling at a speed of 20km/hr)
- An orbital 10.7 metre wide Cycling Super Highway follows the 5km radius
- Within 5km and 10km of the centre there is a network of 4.0 metre wide bi-directional cycle paths which 'feed into' and 'connect to' the Cycling Super Highways because 10km can easily be cycled in less than 30 minutes (cycling at a speed of 20km/hr)

What makes Cycling Super Highways different?

- Cycling Super Highways cater for everyone; young, old, fast and slow, experienced and 'new to cycling' cyclists in one place
- Cycling Super Highways cater for all cycle trips; commuting, travel to and from school, utility trips as well as leisure and recreational trips
- Cycling Super Highways more about capacity and moving large volumes of cyclists than about high speed cycling
- Cycling Super Highways enables cycling to be a mode of transport and a social activity with different types of cyclists cycling together regardless of their physical and cycling abilities

'For the bike to catch on we need a revolution in our infrastructure' Los Angeles Department of Transport



Designing.

Cycling is a very social activity. But across Australia on Saturday and Sunday mornings cycle paths can be very hostile environments as sports cyclists in training, pelotons of high speed lycra clad 'cycle and coffee' cyclists, relaxed pace 'cycling and chatting' ladies and young children wobbling around with stabilisers on their bikes all compete for the same narrow space. Cycling Super Highways, by contrast, are designed with the capacity to cater for all cyclists regardless of physical and cycling ability. Cycling Super Highways provide adequate space for fast commuter cyclists to overtake parents cycling to school with small children and for sports cyclists in training riding side by side to overtake social cyclists cycling side by side.

The Austroads Guide to Road Design, Part 6A: Pedestrian and Cyclists Paths, states that the basic requirements for cyclists are:

- Space to ride
- Smooth surface
- Speed maintenance
- Appropriate sight lines

The design for 10.7 metre wide Cycling Super Highways is as follows:

- 7.2 metres of usable cycle space
- Three parallel 1.2m cycle envelopes (each 1.2m envelope allows for the width of a bicycle and for variation. Less experienced cyclists and children often wobble)
- The three parallel paths operate as 'fast', 'medium' and 'slow' travel lanes
- 3.6 metres of 'usable cycling space' in each direction
- 0.5 metre bi-directional separator
- 1.5 metres on either edge providing clearance as well as providing lighting and landscaping opportunities
- It is recommended that a minimum 2.0 metre pedestrian footpath is also provided

Additional design features should include:

- Quality surface treatments
- Optimal sightlines
- Legible directional signage
- Shaded or covered rest areas with drinking water, seating, toilets at public transport interchanges and key destinations
- 'Pop-up' businesses such as coffee carts along the route
- Minimal gradients where possible

New cycling infrastructure makes cycling a more attractive and viable mode of transport and so helps increase the number of cyclists, which in turn provides a justification for providing new cycling infrastructure.

Cycle Super Highways are attractive to use, safe and 'fit for purpose'





In an article 'Cyclists crucial to road solution' the Courier Mail reported that under the Queensland Government growth management aspirations 20% of all trips would be by bicycle.

Currently only around 2% of all trips in South East Queensland are by bicycle.

On average we all make 3.6 trips per day or around 25 trips per week.

50% of all car trips in Australia are less than 5km.

If we all swapped 6 trips under 5km (3 return trips) currently made by car, we could, together, easily achieve a 20 per cent bicycle mode share.

The Queensland Government Growth Summit 2010 produced the following transport and liveability aspirations:

- "15-minute neighbourhoods" where places to live, work and play can be reached within 15 minutes' walk.
- Door to door transport provided by non-mass transit modes
- Decrease private motor vehicle ownership per household
- Increase the proportion of active transport trips
- Produce cycle network plans
- Increase transport spending on active transport
- Include active transport in all new community developments
- Ensure all new urban roads have safe bikeways
- Conduct active transport audits at all schools
- Include bicycle end-of-trip facilities as a planning requirement for developments
- Better utilise existing infrastructure
- Integrate public transport and bicycles

Cycle Super Highways as part of a suite of land use and transport measures could enable a 20% bicycle mode share

Delivering

The strategy to deliver Cycling Super Highways could include a range of initiatives as follows:

Evaluate for change

Cycling Super Highways could be considered by:

- Establishing responsibility, accountability and management
- Analysing existing transport data and travel behaviour trends
- Understanding the potential for cycling in a city

Examine change opportunities

Cycling Super Highways could be planned and built with/in:

- Better asset utilisation
- Co-ordination with other planning and construction projects
- Land development corridors
- Open spaces and parklands
- Currently underdeveloped brownfield sites
- Urban infill
- 'Land swap'
- Preserved transport corridors
- Motorway and rail upgrades
- Drainage or utility corridors
- Developer consent

Engineer change

Cycling Super Highways design could be supported by:

- Design-and-planning codes for infrastructure and associated treatments
- Minimum design standards

Exchange & funding for change

Cycling Super Highways could be funded through:

- Developer contribution thresholds
- Area wide developer contribution programmes
- Value transfer public private partnerships
- Carbon offset 'collective' fund
- Preventative health funding
- Road trauma offset
- Infrastructure charges
- Land draw-downs
- 'Club funding'
- Joint venture landowner funding
- Joint venture funding partners
- Business Investment Areas

Delivering

Encourage change

Cycling Super Highways could be supported with:

- Medium and higher density mixed-use residential and commercial 'Bicycle-Oriented-Developments' along Cycle Super Highways
- Car-free and low-car residential and commercial developments (Cycle parking rather than private and/or public car parking)
- Residential properties with direct access onto Cycle Super Highways
- Safe and secure mid and end of trip facilities
- Cycle tourism and car-free-days-out

Enforce change

Cycling Super Highways could be supported by:

- Cycle oriented land use policies
- Mixed use land and accessibility zoning
- Maximum car parking standards
- Minimum cycle parking standards
- Development accessibility compliance
- Cycle supportive planning policies
- Area access and traffic management plans
- Cycle supportive traffic laws

Excise change

Cycling Super Highways could be funded by:

- Congestion charging
- Single car occupant 'driving permit' charges
- 'Pay-as-you-drive' charges and tax rebates for cycling
- Junk food, cigarette and alcohol tax
- Low density development levy
- Out-of-town retail centre taxes
- Unplanned utility works levy
- Street works permit charges
- Car purchase tax
- Large car registration premiums
- Fuel sales taxes
- On-street car parking charges
- Car parking permit charges
- Commercial car parking levy
- Pollution tax
- Aggressive car driver penalty fines

Essentials for change

Cycling Super Highways could be supported by:

- Bicycle Access and Mobility Plans
- Integrated Transport Assessments (ITA's)
- Travel Demand Management Plans
- Workplace, school, hospital and tourism travel plans



Decanting

In 2008 TV celebrity chef Jamie Oliver launched his 'Pass it on' campaign. Jamie's mission was to get people cooking proper tasty food at home. Through the UK's 'School Dinners Campaign' it became apparent that lots of kids weren't eating healthy food at home. It wasn't that their parents didn't want to feed them properly it was just that nobody had ever taught them the basics about cooking and food so they didn't have the knowledge they needed to be able to 'whip up' good healthy family meals. Jamie believed that if he could show non-cooks how easy, fun and satisfying cooking could be, then get them to share their new knowledge by 'Passing it on' to their friends and family, it would make a real difference to health and happiness. The experiment was a success.

'Push-Bike Along'

In the same way, many people don't cycle because they don't know or don't remember how. Thirty years ago everyone learnt to ride a bike. Times have changed; busy roads, busy lives, busy working mums, fear of traffic, fear of injury and fear of unknown dangers. It's not that many of us don't want to cycle we just don't know how, when or where to start.

'Push-Bike Along' is a multi-faceted community engagement campaign to get people; young and old, retrieving their bikes, repairing their bikes and riding their bikes. The strategy to decant 'Push-Bike Along' as part of delivering Cycling Super Highways is as follows:

Retrieving their bikes

- 'Push-Bike Along' cycling awareness TV campaign
- Targeted mass-media and mass-marketing promotions
- Voluntary travel behaviour change programs
- Cycling ambassadors
- Cycle promise pledges
- Cycling prescriptions
- Theatre in Education
- Local 'hero's' who everyone can relate and equate to

Repairing their bikes

- Dr Bike clinics
- Mobile bike surgeries
- Bicycle Breakdown Service

Riding their bikes

- Cycle training for children, adults and families
- Cycle confidence classes
- Cycle safety and skills refresher courses
- Bike buddies
- Cycle to school 'cycle trains' and 'Commuter cycle buses'
- 'Cycle to school' and 'Ride to work' days
- Door-to-door journey planners
- Bicycle blogs
- Cyclovia, cycling festival and critical mass events

In the Netherlands virtually every child gets their 1st bike around their 4th birthday - and learns to use it



Determining

If you can't measure the number of people cycling, you can't monitor the number of people cycling

The success of Cycle Super Highways is based on being able to measure and monitor the change in cycling usage. It is critical to 'measure' the number of people cycling at workplaces schools, universities, public transport stations and interchanges, shopping centres and recreational destinations to be able to 'monitor' qualitative and quantitative data about the number of daily bicycle trips, the number of people encouraged to switch mode to cycling, the change in people's perceptions of cycling and the overall modal shift.



The strategy to determine the success of Cycling Super Highways is as follows:

- 24 hour bicycle counters on Cycling Super Highways continuously collecting cycle volume data
- Mobile phone applications continuously collecting GPS origin-destination, route and average cycle speed data
- Cyclist casualty and road safety data
- 'Cycle data survey weeks' with travel diaries recording the total number of cycling trips per week, kilometres cycled per week and the total time in minutes spent cycling per week and 'supermarket sweep surveys' to analyse through spontaneous face-to-face interview people's perceptions of cycling
- Monthly commuter counts and counts of bicycles at public cycle parking locations, workplaces, schools, hospitals and shopping centres
- Annual Cycling Super Highway interception surveys
- Annual school travel tallies, household interview surveys, workplace bike counts or work-based email voting travel surveys, tallies of cycle training participants, cycle ownership and physical activity data

The quantitative and qualitative data, as well as annual asset and maintenance review data, should be published biannually in a 'Cycle Super Highways Account'.

Thank You

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Need to know more?

Please contact me Rachel Smith Email cyclingsuperhighways@yahoo.com





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Graphic Design by Benita Benson

About Benita

Benita Benson is the founder and owner of Acclaro Design and has been involved in graphic design since 2004. She is passionate about providing creative design solutions no matter what the application.

The opportunity to design this toolkit was an exciting chance to be involved with the promotion of Cycle Super Highways.

Benita has always had in interest in cycling. Perhaps this is thanks to her Danish heritage. This interest has grown into a passion to see cycling increase in our communities.

Benita enjoys cycle commuting, recreational cycling and mountain biking and is the proud owner of one of Queensland's few Danish-style cargo bikes for riding with her two young children. Her children have been indoctrinated from a young age to use and enjoy cycling with her 7 year old now a very competent mountain biker. Her husband also cycle commutes and is a competition level mountain biker.

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