Making Sydney a Cycling City

Committee for Sydney

Foreword

Cities around the globe are embracing cycling: transforming from dangerous and car-dominated to cycle-friendly. Cities such as London, New York and Paris are leading the way of how to transform their streets and public spaces. Creating a cycling friendly city has many benefits: including physically active lifestyles, boosting mental health, improving air quality, and supporting economically vibrant neighbourhoods.

Presently, few people cycle in Sydney and the city has one of the lowest rates of cycling in the world. Sydney's roads are not cycle-friendly nor, sadly, are they safe. Newspaper headlines regularly report on the tragic death of another food delivery worker while cycling. There is a pressing urgency to make Sydney's streets safe for all.

This report presents a clear plan for how to create a comprehensive, safe cycling network - a network with direct links connecting Sydneysiders to where they want to go. This report maps out how to create a Sydney where cycling is a convenient option for everyday trips and everyone in Sydney. Therefore, the plans for cycling in Sydney need focus on how to create safe door-to-door trips. Millions of trips each week made across Sydney current by car could be switched to cycling if Sydney had safe, direct and convenient links.

This report presents a concrete plan for turning Sydney into a cycle-friendly city. Interventions aim to achieve three things: Making cycling in Sydney safe, convenient and accessible. Our recommendations fit into six topics:

Making cycling in Sydney Safe
- Build new cycling infrastructure
- Safer roads for cycling

Making cycling in Sydney convenient
- Facilities at the start and end of the journey
- Navigating Sydney by cycle

Make cycling in Sydney accessible
- Access to cycles
- Skills and maintenance

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A call for action and funding for cycling in Sydney

Improving cycling in Sydney is an opportunity to transform our streets and surrounds to become safer, more welcoming spaces. It is an opportunity to rebalance our streets away from car dominance and towards cycle-friendly environments.

Sydney needs more funding for cycling and speedier implementation of plans for cycling infrastructure in Sydney. On the current trajectory it will take decades to create a safe and comprehensive cycling network in Sydney. The city cannot wait this long for a safe network.

Today, many cycle across Sydney for work: food delivery workers. Sadly, the deaths of food delivery workers regularly make newspaper headlines. Sydney urgently needs to act to make cycling safe for these workers – who are we and the restaurant sector particularly rely on.

To deliver the network faster, funding needs to be dedicated to all stages of implementation: planning, public engagement and construction. Sydney needs dedicated, long-term secure funding to plan and deliver a comprehensive cycling network.

Building a safe cycling network is the foundation for encouraging cycling across the city. Without this, cycling in Sydney will never be a safe, viable travel option for most people. We call for a two-pronged approach. On key arterial roads, cycling ideally needs segregated, (double cyclist width), kerb-adjacent cycling lanes. On residential roads, Sydney needs to impose low traffic speed limits, and tweak road design to slow traffic to make cycling in mix traffic safe for all.

Sydney can be a cycling city

Improving cycling in Sydney is an opportunity to transform our streets and surrounds to become safer, more welcoming spaces. It is an opportunity to rebalance our streets away from car dominance and towards cycle-friendly environments.

There is significant potential for Sydney to become a cycling city, a more liveable city with great places and streets. Today, only a small fraction of all trips in and across Sydney are made by cycle – less than 1%. However, the majority (70%) of Sydneysiders say they would take up cycling at least once a week if it was safe to cycle.

Today, only 16,000 cycle trips are made in Sydney City and Inner South. Re-allocating road space to cycling and creating safe spaces for cycling could see commuting by cycle rise to over 240,000 a day. There is an opportunity to enable a step change in cycling in Sydney. With targeted investment more people would cycle. Shifting only 2-5% of short distance trips within 10km of the Sydney Eastern Harbour could remove 20,000-50,000 motor vehicle trips a day from the city's congested roads.

Transport for New South Wales (TfNSW) estimates that the share of trips made by cycle could be increased to 5% with a comprehensive cycling network. It is estimated that within 18 months of installation of new cycle routes, usage will double. Longer term, the number cycling infrastructure users is estimated to increase four to five-fold from when the cycling infrastructure was put in place.

Much of Sydney has high capacity for cycling, but also high dependency on cars.
Map plotting Sydney on Cycle Use Propensity and on Car Dependency.

Why invest in cycling?

The physical health benefits of cycling are clear and there is a growing awareness of the mental health benefits of cycling, in particular the reduction of stress and an increase in general wellbeing.

Recent reassignment of road space to walking, place making and cycling across the globe has demonstrated how cities' streets can be transformed from solely serving as traffic corridors. Dedicating more road space to people can transform cities into welcoming spaces.

Creating cities for cycling leads to better public spaces for people. Cities across the globe that have invested in high-quality street environments demonstrate its positive impacts: residents healthier, happier and more engaged with their local community.

To make more efficient use of road space

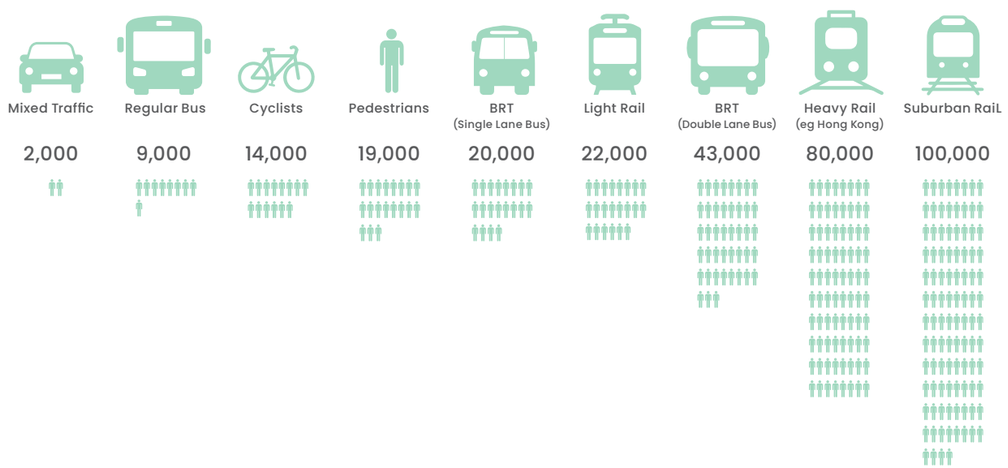
Cycling is a more efficient use of road space to transport people from A to B than movement by cars, utilising less space per person than private vehicles. Reallocation of a road lane from private cars to cycling increases the capacity of the road from 2,000 to 14,000 people. By reallocating road space to cycling, Sydney can move more people without needing to build new roads.

In Sydney, road space on the main roads is scarce. An important argument for dedicating roads space to cycling and walking in the Sydney context is that cycling and walking are an efficient use of valuable and contested road space.

In Sydney, as a result of topography and city development, there are many competing demands for the scarce road space along main streets. Many roads serve as local high street, high traffic arterial and vital public transport corridor.

Dedicating road space to cycling rather than private car can mean the roads will serve the community better as a high street, as more people can access the high street by bike in the same space previously allocated to cars. Dedicating more space to cycling will also create a more liveable and welcoming public space for all, instead of fewer private car users.

Sydney could transport multiple times more people if the city dedicated road lanes to public transport and cycling instead of the private car
Person that could be transported in a 3.5m lane via different transport modes/vehicles



To reduce road vehicle emissions & improve air quality

In Australia, the transport sector is the second largest emitter of greenhouse gases – responsible for 19% of total emissions. This is set to increase by 2050 as technological advances reduce the emissions from other activities such as cooling and heating homes.

Overall, Australia is highly car dependent for its mobility. Transport's contribution to greenhouse gas emissions is also set to increase as consumers increasingly opt for more fuel-consumptive private vehicles such as SUVs.

Air quality has deteriorated as a direct result of the pollutants from transport, in particular road transport. The impact of poor air quality is significant. The negative health impacts of poor air quality are respiratory problems (including asthma), reduced life expectancy and cancer. Air pollution is responsible for AU$3bn in health costs to government in the Newcastle-Sydney-Wollongong region alone.

To deliver better physical health

A large share of adults (40%) and the majority of children (75%) do less than the minimum recommended physical activity per week according to the Australian Government's Department of Health – on average one hour of moderate to vigorous physical activity per day for children, and 20-45 minutes of moderate physical activity or 10 to 20 minutes of vigorous physical activity a day for adults.

Lack of exercise contributes to deteriorating mental and physical health, including diseases such as depression and diabetes. There is also an economic benefit to facilitating cycling in cities – this comes in terms of reduced public health costs and improved journey times. Transport for London for example has calculated that if all Londoners walked or cycled for 20 minutes a day, this would save £1.7 billion (AU$0.9 billion) in health costs over 25 years.

To boost mental health

The physical activity of cycling has clear mental health benefits, in addition to the physical health benefits. Regular exercise such as cycling boosts mental health and helps tackle depression. Exercise benefits include greater self-esteem, reduced anxiety and improved sleep patterns.

To boost the local economy

Creating liveable neighbourhoods with good walking and cycling connectivity can revitalise high streets, local town centres and the wider neighbourhood. People walking and cycling visit their high street more frequently and spend more money there compared with people travelling in cars. In Los Angeles, car lanes were replaced with bike lanes on part of York Street. On the stretch with new bike lanes, sales increased two-fold.

Compact urban areas designed for walking and cycling can support more shops – a 2.5 times greater retail density, as a study by the University of Birmingham found. In New York, streets with dedicated cycle lanes recorded greater sales than retail in surrounding areas. A study of businesses in metropolitan Portland found that people walking and cycling spent more locally each month than those driving.

Cities across the globe are embracing cycling

London: a city with scarce road space becomes a cycling city

Half of London's bicycle share users started cycling after trying out cycling in London via the bicycle share service
One of Transport for London's bicycle share dock station.

London has slowly evolved into a cycling city over the last 20 years. The key to achieving this was reducing motorised traffic on London streets. In 2003, London introduced the congestion change - a flat fare to drive in Central London by car or van. In response, traffic volumes fell and the city reallocated precious road space from cars to walking, cycling and public transport.

In 2010, London set up a cycle share in the urban core with managed docking stations. The bike share system offered many Londoners the opportunity to try out cycling in the city. Nearly half (49%) of the cycle share's users said it was the scheme that prompted them to start cycling in London.

Johnson left his mark on the city with cycle superhighways - designated cycle lanes connecting Inner London neighbourhoods to Central London via 30-minutes routes. To further mark the importance of cycling to his agenda, Johnson established political appointment of the Cycling Commissioner. In January 2013, he appointed journalist Andrew Gilligan to this role. His job was to advocate for cycling and to raise the profile of cycling and to support the delivery of cycling programs in London. In 2016, the current Mayor of London Sadiq Khan, Johnson's successor, added walking to the Cycling Commissioner's responsibility. He appointed Dr Will Norman, a former inactivity advocate and Director of sports brand Nike director, to the role.

Khan inherited a patchwork of cycling infrastructure, with routes of varying quality. Some of the cycle superhighways are a role model for safe, segregated cycle infrastructure, however, other sections of cycle highway program and London's complementary Quietways program are of less consistent quality - and are in places little more than cycle symbols on the road.

To address the patchwork of cycle infrastructure, the current city administration has committed to not funding substandard cycling infrastructure. Mayor Sadig Khan increased the cycling budget for the city's transport agency Transport for London from nearly AU$300 million to around $375 million a year.

One big challenge for transport in general and cycling specifically is that the governance of London streets is fragmented. Only London's arterial roads, which make up around 5% of the road network, fall under the jurisdiction of the Mayor. The other 95% of streets in London are the jurisdiction of 33 local government authorities. Some of these local governments are not supportive of the Mayor's cycling vision and have actively blocked the introduction of cycling routes across London.

At the end of 2018, London announced a plan to expand the capital's cycling network by 450 kilometres of high-quality cycle routes to be delivered by 2024. The plan has a pipeline of 25 new cycle routes, and speeds up their delivery considerably.

Despite the challenges, these efforts have seen cycling in London more than double – up 152% in 2020 compared with 2019.29 Cycling, however, still only makes up 2.4% of all trips compared with 1.2% in 2000.

A wider section of Londoners has taken up cycling as the city has installed more safe cycling infrastructure - often separate from motor vehicles
People cycling waiting for their turn to safely cross a junction at Parliament Square in London

London's cycle superhighways provide direct, fast cycle routes across London
Transport for London dedicated cycle infrastructure, Cycle Superhighway 7, connects South West London to Waterloo station in Central London

Cities across the globe are embracing cycling

Paris: visionary leadership to retrofit cycling infrastructure

The current Mayor of Paris was re-elected on a platform to make all streets cycle-friendly by 2024
A local Parisian street with dedicated road crossing for people cycling

Paris's transformation to a cycling city has been a decades long effort to shift travel in Paris from the car to public transport and active travel. Since 1990, the share of cyclists has increased ten-fold. This has been part of a wider move away from the private motor vehicle. Over the past three decades public transport mode share has risen 30%.31 This marks a significant change from the policy of the 1960s and 1970s, which surrendered the city to cars. The foundations for the shift away from cars were laid by the work of many Paris mayors over the years.

Jacques Chirac, Mayor from 1977 to 1995, laid the foundation for shifting away from car dominance in Paris. Chirac's administration tackled illegal pavement parking with bollards and transformed the Champs-Elysees into the public space by widening pavements, banning kerbside parking and installing green spaces.

Paris launched its first cycling plan in 1996 under Chirac's successor, Jean Tibéri. The plan's headline aim was to reduce motorised traffic in the city. Tibéri established cycle lanes along Paris's main arterial roads, introduced traffic-calmed neighbourhoods and banned cars from key locations such as the Place de la Concorde.

Mayor Bertrand Delanoë, Tibéri's successor, was elected on a mandate to upend the car's dominance in Paris. He prioritised public transport and cycling by installing bus lanes and 650 kilometres of cycle lanes across the city.

In 2007, Paris reintroduced a bike share program - now the largest and most used system outside of China. Paris continued its efforts to reduce the number of private cars on its streets with headline interventions such as transforming the River Seine embankment. In September 2016, to create more public space, the lower level of the embankment was closed to motorised traffic. On the upper tier, traffic speeds were reduced.

Efforts to reclaim the city's streets from motorised traffic continue. Under incumbent Mayor Anne Hildago, Paris has reclaimed traffic lanes from cars on major arterial roads and introduced more traffic-calmed neighbourhoods. In May 2020, Paris published plans to roll out over 650 kilometres of new cycle lanes. These plans were accelerated in response to the coronavirus crisis. In mid-2020, Mayor of Paris Anne Hidalgo was re-elected on a platform of making all streets in the French capital cycle-friendly by 2024.

The region for Paris pledged €300m for a metropolitan cycle program, the RER Vélo program, which mirrors nine key commuter rail links into central Paris. The program will fund a mix of new infrastructure, including express cycleways for electric cycles, and 'pop-up' interventions.

Paris accelerated its plans make Paris cycle friendly in response to Covid-19 crisis
Local street in Paris with outdoor dining and people cycling on shared road

Multiple e-scooter hire companies have launched in Paris in recent years. Cycling infrastructure offers users of e-scooters safe routes across the city too.
Free floating e-scooters parked at one of Paris' bicycle hire dock stations, located next to a cycle lane.

Cities across the globe are embracing cycling

New York: Reclaiming road space for cycling

In recent years, New York City has reallocated road space from cars to cycling as well as to rapid bus routes and pedestrians.
Cycle parking at the entrance of a New York City Transit subway entrance

The transformation of cycling in New York, between 2007 and 2013, started under Mayor Bloomberg and his transport commissioner Janette Sadik-Khan. The city reclaimed road space from cars and reallocated it to cycling, in addition to rapid bus routes and pedestrians. The mandate for these road allocation changes changes came from Mayor Bloomberg's PlaNYC, a vision for creating a greener and more liveable New York City.

August 2008 marked a turning point for cycling in New York: a trial of weekend street pedestrianisation of New York City's streets. For three consecutive Saturdays, New York closed over 10km of its streets to motorised traffic. Building on this success, New York City Department of Transportation rolled out over 650km of cycling routes over the next five years. Sadik-Khan also oversaw the establishment and expansion of New York City's docked bike share system.

The reallocation of road space did not come without controversy. A notable case was a vocal lobby against the Brooklyn Prospect Park cycle route. However, the public mood has shifted. Polling shows the changes introduced by Sadik-Khan are generally popular among New Yorkers.

In recent years, efforts to improve cycling have focussed on addressing poor road safety. In 2019, New York City recorded its deadliest year of 28 deaths. In response, New York City launched the Green Wave program, with a plan to invest the over AU$80million and build 50km of protected cycling routes. In its first year, over 35km protected cycle routes were constructed.

During the coronavirus crisis, demand for cycling has risen. Traffic volumes and parking in cycle lanes fell during the coronavirus crisis in New York, and as a result cycling was safer. This attracted people to take up cycling – women in particular. In comparison with the previous year, the number of women rose 147% versus 68% among men and 80% on average. In response to growing cycling numbers, New York City committed to reallocate over 160km of the city's streets from cars to cycling. In February 2021, New York City announced plans to reallocate car lanes on the Brooklyn and Queensboro bridges to cycling lanes.

A successful trial of street pedestrianisation at the weekends in August 2008 more of New York City's streets welcoming walking and cycling.
Youths cycling on one of New York City's enjoying cycling as a group alongside motor traffic

Efforts to improving cycling in New York City were sparked by New York City recording its deadliest year with 28 deaths in 2019.
Person cycling navigating crossing a junction without infrastructure design for those cycling

Cycling in Sydney today

Cycling in Sydney is unsafe

Sydney's road network is designed for fast, motorised traffic. This is exemplified by wide lanes and wide turns at junctions. Crashes involving cyclists are recorded across the whole city. Four in five (nearly 80%) of those crashes occur on arterial and collector roads – those fast, high traffic, motor-centric designed roads. The majority of these crashes (around 60%) happen on arterial and collector roads without any cycle infrastructure.

The lack of safe and direct routes for cycling leads to many cycling on the pavement. This further reduces the scarce pedestrian space. It also makes

the pavement unsafe for pedestrians. Therefore, creating a cycling network benefits not only existing cyclists but all road users, including particular pedestrians.

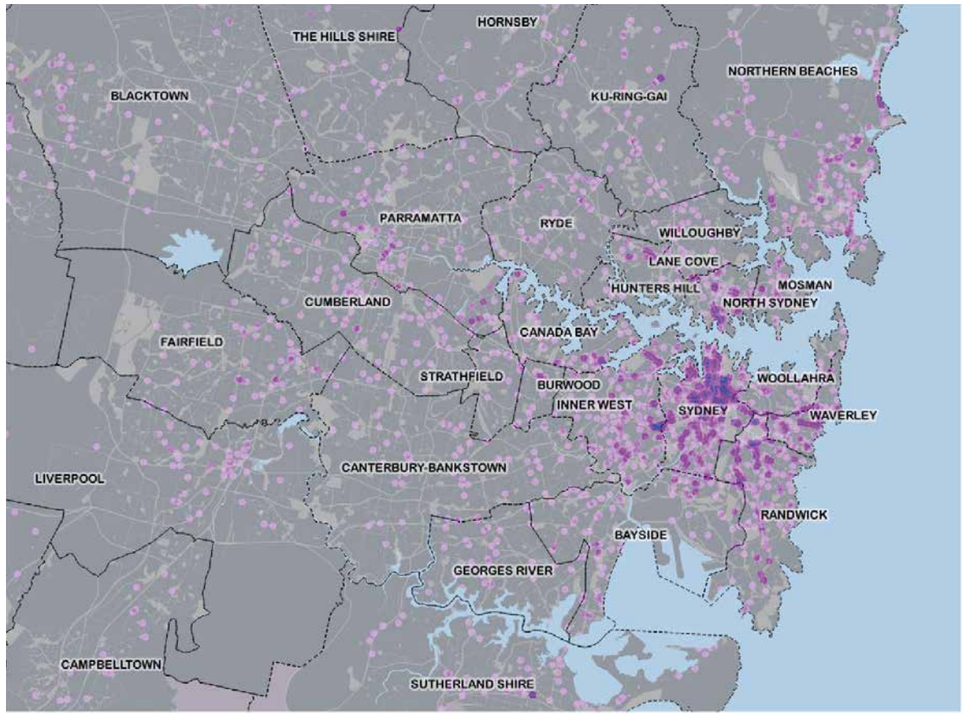
Sydney has fragmented cycling infrastructure

Cycling infrastructure in Sydney is missing in the vast majority of the metropolitan area. Unsafe road conditions are a major barrier to people cycling. Designated infrastructure for cycling is key to encouraging people to take up cycling. Currently, Sydney does not provide much cycling infrastructure and where it is provided, it is not joined up to created a safe, continuous network. For large areas of metropolitan Sydney there is no cycle infrastructure and very few with segregated cycle infrastructure.

A cycling trip is only as attractive as its worst section. Gaps in the network undermine the entire route's attractiveness to a potential cyclist. They make continuous journeys unsafe and therefore severely limit who is prepared to cycle on Sydney's streets.

Across Sydney people cycling are involved in traffic crashes.

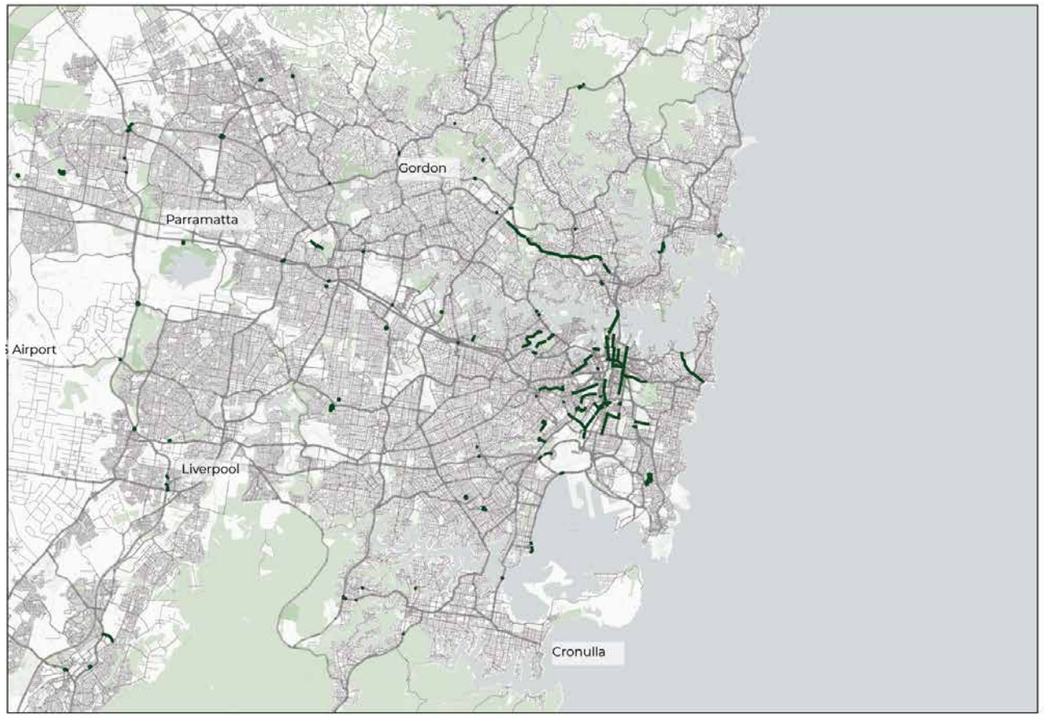
Map highlighting in purple locations of crashes involving people cycling between 2014 and 2018. The darker the purple the higher the number of recorded crashes.

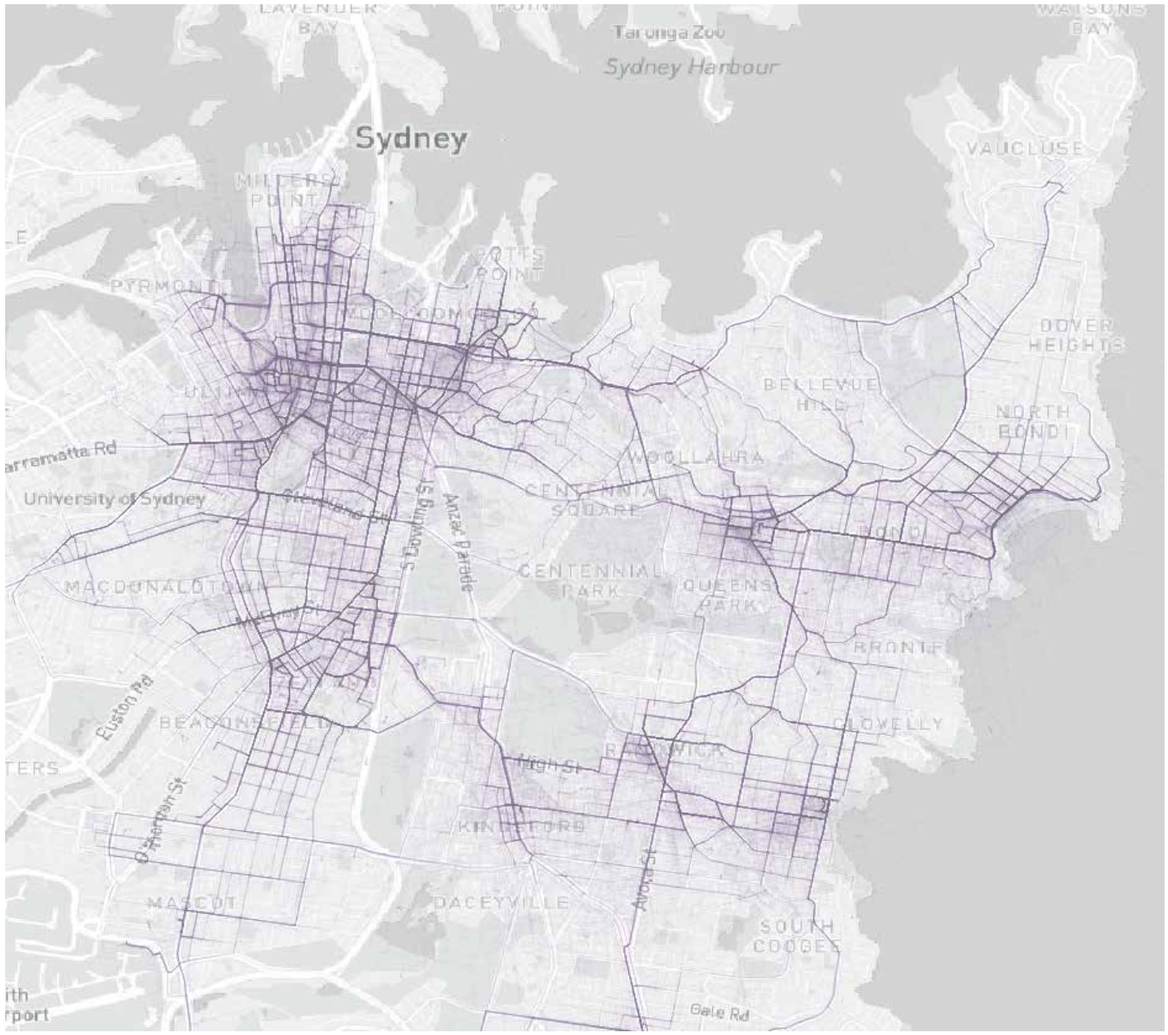


Source: Oliver Lock, University of New South Wales

Sydney's network has only a patchy network of cycle routes protected and separated from motor traffic

Map of separate and protected cycle routes in Sydney. Green lines mark which roads have this dedicated cycling infrastructure.





Food delivery workers are reliant on a road network overwhelmingly without dedicated cycle infrastructure to make deliveries across Sydney

The purple lines on the map highlight which roads in Sydney are used by Uber Eats drivers to complete food deliveries. The darker the purple the more popular the link is among Uber Eats drivers.

There is no safe cycling network for food delivery workers

More online shopping and food deliveries than ever before were made during the Covid-19 pandemic – accelerating a longer-term trend towards deliveries. With restaurants closed or operating with limited capacity under Covid-19 suppression measures, many turned to ordering from restaurants and getting their meals delivered instead.

In response to the rise in popularity of takeaway delivery, delivery workers have flocked to Sydney's streets. Many delivery workers cycle for their work. This influx has highlighted the dangerous cycling conditions in Sydney and gaps in the cycling infrastructure. In response to customer demand, delivery workers congregate in and travel between busy inner-city areas. Data from Uber, who run the food delivery order platform UberEats, is shown in the image above. It highlights that many of the arterial roads, such as Bondi Road and Oxford Street, Paddington are use popular routes with cycling food delivery workers, despite the lack of dedicated cycling infrastructure. The map also highlights the desire lines for those cycling to travel. Importantly, food delivery workers are using arterial routes that provide the most direct route, even if safe cycle routes off the arterial road exist. Where cycling infrastructure does exist, such as the pop-up cycle route along Pitt Street, this is popular among delivery workers.

The lack of cycling infrastructure makes cycling in Sydney dangerous for food delivery workers. The death of a food delivery worker is regularly reported in the news. Urgent action is needed to install a safe cycling network with direct routes along the desire lines. Delivery workers, both food delivery and online shopping, provide a key role in keeping the post-Covid-19 economy going. They enabled many restaurants and retail to pivot to online sales and thereby ensured their survival during the crisis. It is imperative that sufficient road space is allocated to this important work force, so they can safely work without threat of death or injury.

In Sydney, food delivery workers use a road network overwhelmingly without dedicated cycle infrastructure to work.

Uber Eats food delivery worker completing deliveries on a bicycle.

Pop up cycleways have demonstrated how cycling infrastructure could transform Sydney's streets into liveable places.
Wilson Street in Sydney before separate cycle infrastructure was built.

Wilson Street in Sydney after separate cycle infrastructure was built.

Sydney is building new cycle lanes

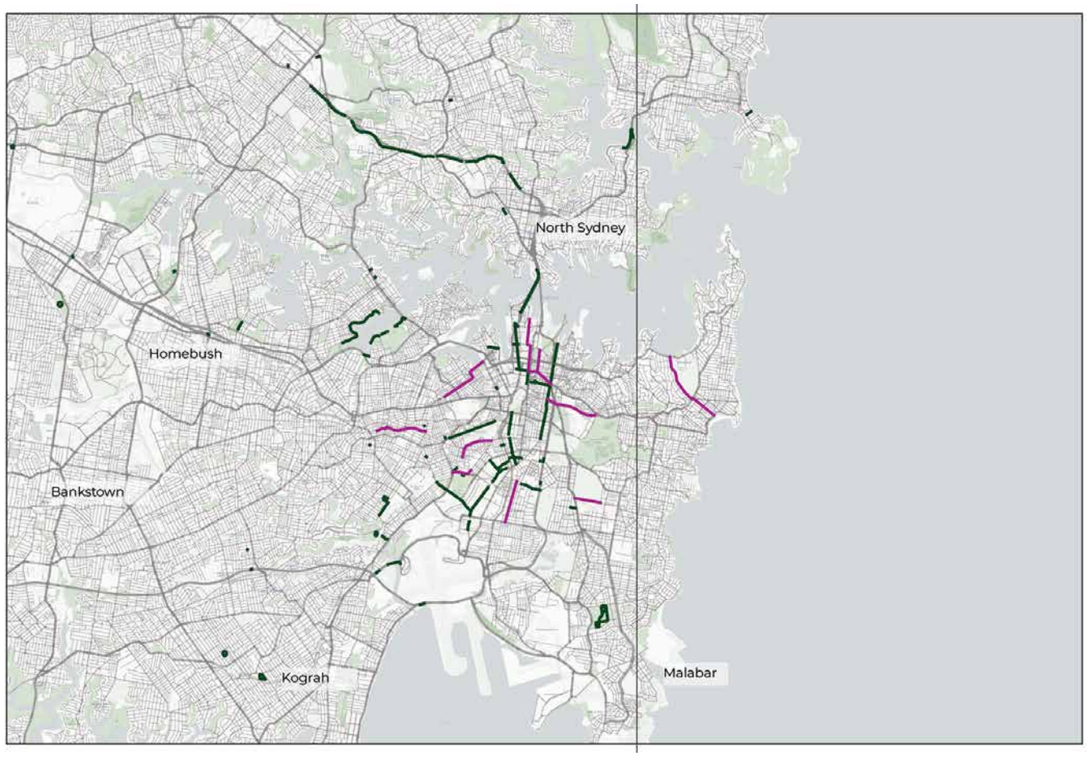
Segregated Cycle Lanes

There are some notable examples of how Sydney has transformed its streets to include segregated cycle lanes in recent years. Wilson Street, Bourke Street and Kent Street have experienced successful transformations (and are illustrated below). In the case of Wilson Street, road space was claimed for a bi-directional, protected cycle lane.

Wilson Street transformation

On Bourke Street, cycle infrastructure was upgraded from paint on the road to a segregated bi-directional cycle lane. On Kent Street, a parking lane was converted into a segregated bi-directional cycle lane.

Pop-up cycling infrastructure has significantly expanded the network of protected, dedicated cycling infrastructure in Sydney
Map of separate and protected cycle routes in Sydney. Green lines mark which roads have permanent dedicated cycling infrastructure and the purple lines mark where pop-up cycleways were installed

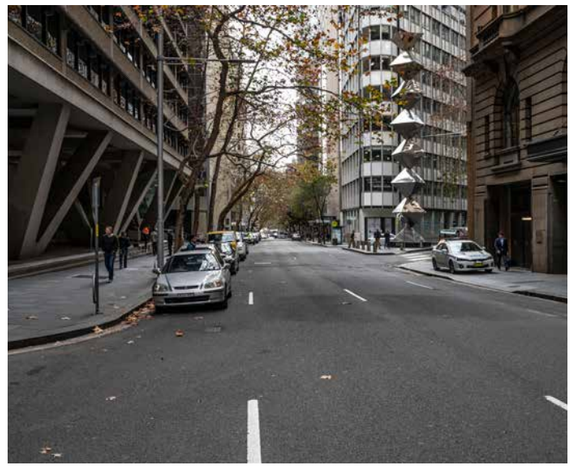


Sydney is seeing success with Pop-Up Cycling Infrastructure

In 2020, 10kms of temporary pop-up cycle lanes were installed, and transformed some of Sydney's streets. Pop-up cycling infrastructure is a great way to demonstrate how the streetscape can look like with greater policy emphasis on active travel instead of motorised travel.

Trials such as these pop-up cycle lanes have been a great tool for helping to change the public's perception. Sydney's pop-up cycle lanes offer vital cycling links and both the NSW Government and Local Government should be commended for responding quickly.

Pop up cycleways have demonstrated how cycling infrastructure could transform Sydney's streets into liveable places.
Pitt Street in Sydney before pop-up cycleway was installed



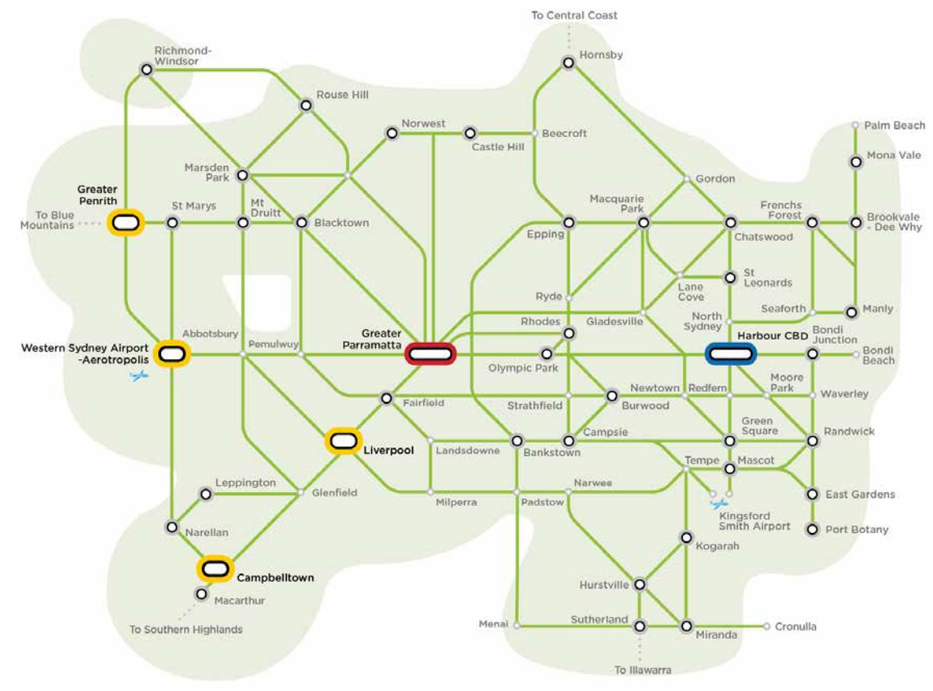
Pitt Street in Sydney after pop-up cycleway was installed

Sydney has a vision for future cycle networks around Parramatta and the Eastern Harbour city

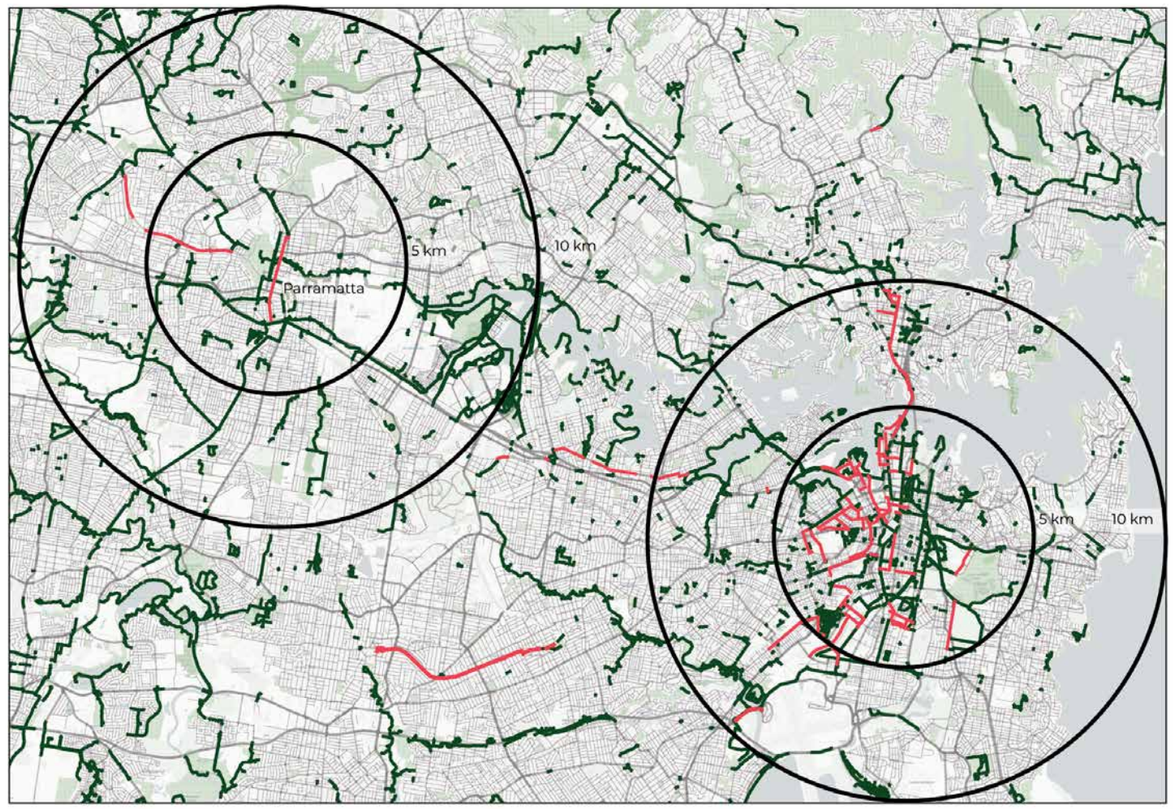
Current strategic transport documents set out a path to transforming Sydney into a cycle-friendly city. The headline cycling proposal is to build up the cycling network in Sydney around metropolitan centres (the Western Sydney Aerotropolis, Parramatta and the Sydney CBD/Eastern Harbour City), and strategic centres – including 27 local employment and high street hubs. The Future Transport Strategy 2056, a long-range vision for transport in the metropolitan area of Sydney, sets out to develop cycling network within a 10km radius of the metropolitan CBDs and 5km of the strategic centres.

Currently, two million car trips under 2km are made each week day in Sydney. Many of these trips can be switched from car to cycling.

Sydney's long-term transport network includes comprehensive cycle links.
Proposed Greater Sydney Principal Bicycle Network 2056



Cycling networks linking destinations 10 kilometres from metropolitan centres Parramatta and the Eastern Harbour city are proposed in long term transport strategies.
Map highlighting existing (in green) and proposed (pink) cycling paths across Sydney and lanes (including shared paths with pedestrians). Map also indicates 5 and 10 kilometre radius from each metropolitan centre.



The ambition for better cycling in Sydney, as well as the benefits of cycling are repeatedly articulated in strategic transport documents including the Future Transport Strategy 2056, State Infrastructure Strategy 2018-2038 and Metropolis of Three Cities documents. However, concrete commitments to specific delivery targets and dates have not been made.

An annual program of walking and cycling improvement projects is funded by TfNSW – around $710 million is allocated to walking and bike riding infrastructure over the next four years, bringing the total investment to around $1.1 billion – the largest commitment in the State's history. Current cycling projects in the recent programs have been for shared cycling and walking paths. What is now needed and what we are calling for is a speedier implementation of this vision.

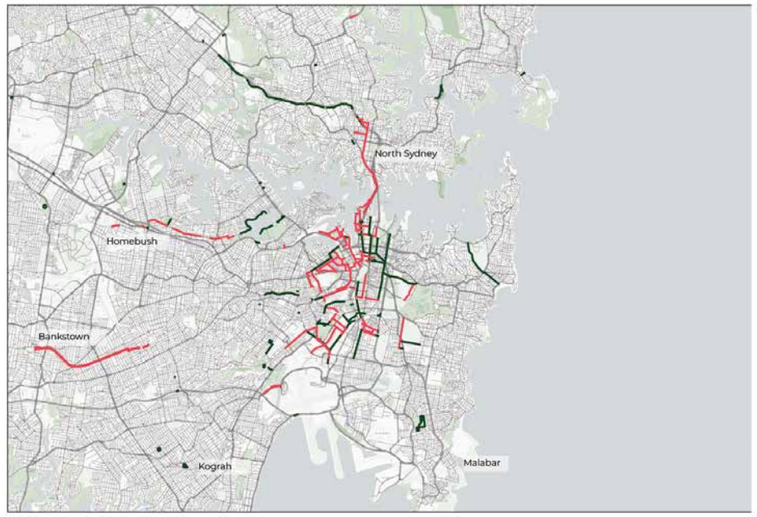
Much of existing and proposed infrastructure is not safe enough

Significant expansion of the cycling network in Sydney is planned - as shown in the maps on the right. However, very few of these links are currently proposed as dedicated cycling infrastructure that is separate from pedestrians and protect with physical barriers from motor vehicles - as the comparison of the top maps (only separated, protected cycle infrastructure) with the bottom maps (all cycle infrastructure including paths shared with pedestrians or lane shared with motor traffic) illustrates.

Investment in separated and protected cycling infrastructure is critical to improve road safety for people cycling and broaden cycling uptake. As other cities have demonstrated, without this high-quality infrastructure, cycling will remain a travel option only for those brave and fit enough to mix with motor vehicles.

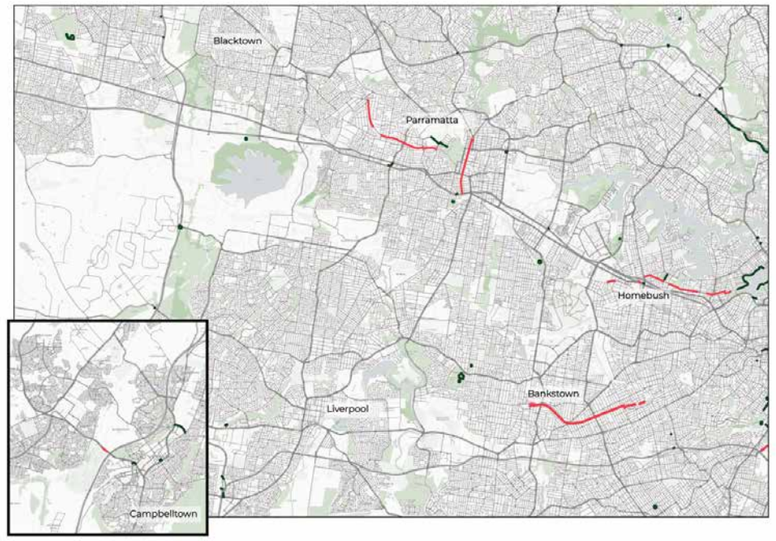
Sydney's plans for a cycling infrastructure are overwhelming not for infrastructure that is separate and protected from motor vehicles

Map of existing (green) and proposed (red) cycling links with physical separation from motor traffic and pedestrians centred on the City of Sydney/Eastern Harbour City



Map of all existing (green) and proposed (red) cycling links including those without physical separation from motor traffic and pedestrians centred on the City of Sydney/Eastern Harbour City

Map of existing (green) and proposed (red) cycling links with physical separation from motor traffic and pedestrians in Western Sydney



Map of all existing (green) and proposed (red) cycling links including those without physical separation from motor traffic and pedestrians in Western Sydney

10 step plan to making Sydney cycle-friendly

Fund infrastructure

1 Increase to Transport for New South Wales funding to build principle cycle network on state roads

Increase funding to level that enables deliver of a comprehensive principle cycle network across Sydney within ten years.

Where key arterials of future principle cycle network are not state roads, Transport for New South Wales to provide funding to local government to deliver cycle infrastructure.

The backbone of the principle cycle network should be separate from motor vehicles and traffic.

2 Fund local government to deliver safer streets

Local government can apply for funding from TfNSW for street redesign to make streets safer for cycling. This would include funding for street features that increase overall road safety such as street narrowing and pavement extensions at junctions. This needs to be on-going and funding replenished so that all well-argued proposals qualify.

3 Fund local government to deliver cycle parking

Local government can apply for funding from TfNSW for safe and secure cycle parking infrastructure, such as parking corrals and lockers. Priority for this funding stream will be cycle parking at local centres such as public transport hubs, high streets and school or universities.

This would retrofitting street furniture with options for safe cycle parking.

4 Fund safe residential cycle parking

Cycle parking infrastructure to be funded by TfNSW, where local government can demonstrate resident's interest in using safe cycle parking lockers. This should include on-street cycle parking and off-street, apartment-building parking options. A similar scheme has been put in place in London.

Access Cycles

5 Help to purchase cycles

Make cycle financing schemes available to broaden access to cycles. England has a cycle purchase scheme where employees pay the cost of their cycle over a year via monthly salary sacrificing (deductions from their monthly pay before tax). This scheme has been very successful in enabling a wider uptake of cycling.

Greater government focus on cycling

6 Establish cycling 'czar' role within TfNSW

The Cycling Czar is envisioned as role similar to the new post of Night Mayor, NSW's 24hr Commissioner, within NSW government. The Cycling Czar would need a civil service branch within Transport for New South Wales to be effective . This has been successful at both focusing efforts and creating a spokesperson for the value of investing in cycling. The Cycling Czar need a branch of TfNSW reporting to him to implement and deliver cycling projects. This vision is for cycling as a mode to be elevated within TfNSW and given equal status to public transport and road transport modes.

7 Boost government skills and expertise

Invest in expertise and capability in state and local government to push ahead planning, consultation and delivery of cycling investment and programs. This could be hiring new staff, training staff and temporarily bringing on board temporary support to boost efforts and capability on cycling.

At state government level, there should be a drive to recruit staff. Make this expertise available to local government through secondment or targeted project specific design, planning, and delivery assistance.

Access to and funding of training and professional development of local cycling expertise needed.

Streamline processes

8 Make it easier to set traffic speeds

Key to making cycling in Sydney safer is safer cycling alongside motor vehicles on quiet local and residential roads. Reducing traffic speeds will make cycling safer.

However, currently it is not straightforward for local government to reduce traffic speed limits, as this requires coordination with state government. Transport for New South Wales should dedicate resources to working with local governments open to reducing traffic speed limits, to swiftly implement these traffic changes.

9 Adopt new metrics of success to guide transport investment

Established transport appraisal and project selection criteria such as conventional benefit-cost analysis and value for money, fail to capture the value of investment in sustainable transport modes like cycling.

Transport for New South Wales, must adopt more holistic and accurate transport appraisal to reflect benefits of sustainable transport options.

10 Adopt transport targets to guide decision making

TfNSW should adopt long-term headline target that summarise the urgency to act on shifting travel to sustainable modes.

London for example has to headline target for 2040 for 80% of all trips then to be by sustainable transport mode (walking, cycling or public transport). For cycling, distance to the cycling network is another metric London uses. London has targets on the percentage of Londoner living within 400m of a high-quality cycling network.

Transport target strengthen and clarify the arguments for cycling. They would boost steer investment in cycling in Sydney and lead to roll out on the principles of access and equity.

An action plan to create a cycle-friendly Sydney

Sydney should invest in a comprehensive plan to transform cycling in the city. That plan should include investment in better cycling infrastructure, changes in traffic management, improved end-of trip facilities, signage and cycle training.

The overarching principle guiding our proposal is the creation of a safe network. For this reason, tackling unsafe junctions and other missing links in the existing cycling infrastructure is of highest priority. Unsafe cycling conditions is the number one barrier to taking up cycling. This is particularly pronounced among women, who in Sydney, as in many other cities, make up only a small share of cyclists.

It is important to underscore that the most critical part of this proposal is investment in infrastructure. Without this foundation, Sydney cannot become a cycling friendly city. The second most important part is traffic management: calming local streets to make cycling in mixed traffic, and safe traffic-signalled junctions for cyclists. All other proposals add to enabling and supporting cycling in Sydney. These are important, not just a nice to have, but they will not substitute or work on their own without the infrastructure and traffic management measures to support them.

Our overarching idea is to create a hub and spoke model for cycling, linking all streets to a safe cycling network. The hub and spoke model is a guiding concept for public transport in New South Wales. Long-range plans such as Building Momentum acknowledge the challenge of competing demands for roads space but also conclude that Greater Sydney must make 'better use of scarce road space.

Sydney needs to take a three-step approach to making the city cycle-friendly:

1 Make cycling in Sydney safe
2 Make cycling in Sydney convenient
3 Make cycling in Sydney accessible to all

The following table summarises the specific interventions needed to achieve each of these three steps. Each step builds on the next to create a comprehensive cycling network for all of Sydney and all Sydneysiders.

Priority Level	Intervention
Make cycling in Sydney safe	
Highest Priority	**Build new cycling infrastructure** Complete missing links in cycling network (e.g. junctions) Build strategic principle bike network **Safer roads for cycling** Road design for slower traffic speeds Lower traffic speed limits and enforce them Re-time traffic signals
Making cycling in Sydney convenient	
High Priority	**Facilities at the start and end of the journey** Home: safe residential cycle parking Neighbourhood: plentiful cycle parking at local high streets Public transport: prominent cycle parking at public transport hubs Work: parking and shower/changing facilities at workplaces **Navigating Sydney by cycle** Wayfinding and signage for cycling Maps for cycling
Make cycling in Sydney accessible to all	
Support measures	**Access to cycles** Cycle purchase finance options via monthly repayments Facilitate local cycle hire schemes via employers or educational institutions Facilitate public cycle hire scheme across city Employer cycle vehicle pool **Skills and maintenance** Learning to cycle Confident city cycling Public fix stations across Sydney Free cycle maintenance skills Pop up maintenance workshops at large employment hubs & neighbourhood centres

Making cycling in Sydney safe

To make cycling in Sydney safe, Sydney needs a comprehensive, well-connected road network which considers cycle safety. To create this network two different approaches are needed: on roads with fast moving traffic, cycling needs a separate lane from motor traffic; on slower, quieter roads cycling on roads with motor traffic can be safe if road design changes are adopted. In short, on different roads, different road design changes will be needed, based on the traffic volumes and speeds: ranging from small tweaks and lower traffic speeds on residential roads, to cycle routes wholly separated and protected from motorised traffic on trunk roads.

How to create a cycling network in Sydney:

- Plug network gaps
- Make residential and local streets safe to cycle on
- Build new dedicated and protected cycleways on arterial roads
- Build new safe cycling routes on all new developments

To make the most of its existing stretches of cycleways, Sydney must plug the missing network gaps. These gaps are often junctions and short stretches where the road design is optimised for fast-moving motorised traffic – therefore hotspots for cycle crashes. Filling in these gaps needs to be Sydney's highest priority.

The next priority should be to build a principle cycling network on Sydney's arterial roads. This network is safe for people cycling through separation from motor vehicles. It will provide quick and direct routes connecting A and B. This network would be similar to London's super cycle highway. This report proposes a three-layer hierarchy for cycling in Sydney. In simple terms, the faster a road the more segregated the cycling infrastructure along that route needs to be.

The next priority to create a comprehensive cycling network is to ensure all streets, including those without separate cycling infrastructure are safe to cycle on. To make all local streets - often residential and with low traffic volumes - safe for cycling, traffic speeds need to be reduced and motor vehicle drivers need to more aware of all other road users. To make these local streets safe, traffic calming design features are needed. In addition, traffic speeds should be reduced and this lower limit enforced.

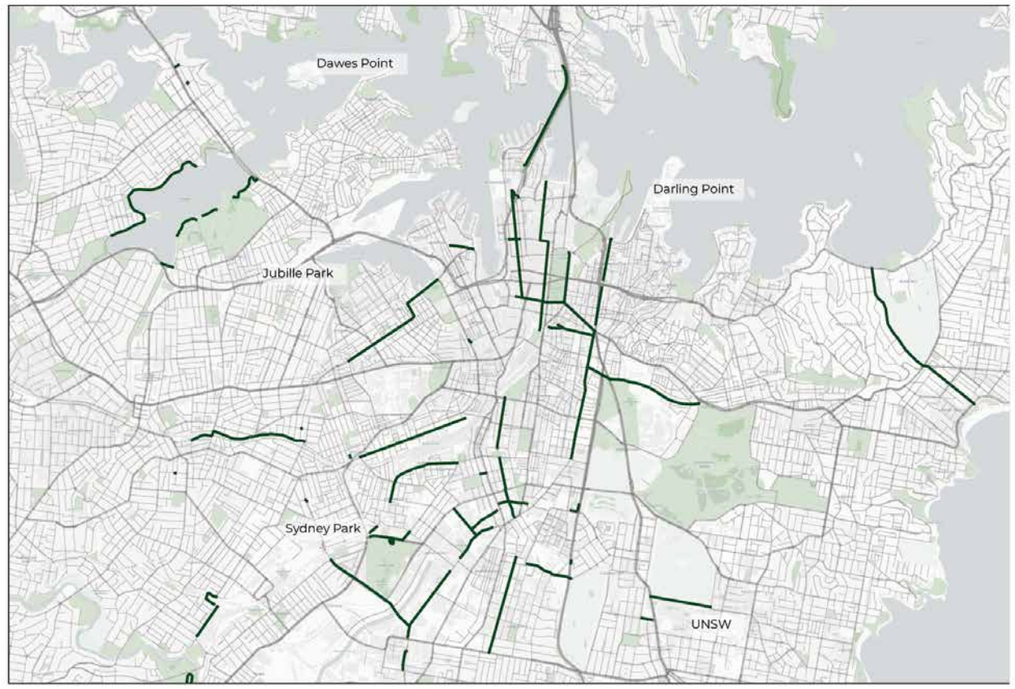
Plugging gaps in cycling network

Filling in the key gaps in the cycling network an urgent priority. This will require redesigning junctions and reprogramming traffic signalling. In addition to junctions, missing links or sections where cyclists are forced to share the pavement with pedestrians or dismount should be redesigned to allow cycles to have a continuous, safe journey. Whilst these missing links are still in place, clear and consistent wayfinding should be put in place to guide cyclists on how to manoeuvre the missing cycling link and how access other cycling infrastructure to different destinations.

Sydney needs to create a cycling network not just a collection of fragmented cycling infrastructure. Too often cycling infrastructure is an afterthought and we can see the markings of that across the city: painted cycling lanes suddenly ending on a stretch of road (sometimes starting again a few intersections further along), cyclists suddenly forced to share the pavement with pedestrians because junctions have not been redesigned to accommodate cycling traffic, and no wayfinding for cyclists when lanes end. All these examples are missing links in the network – and crucially key barriers for many to take up cycling. It is vital to build a cycling network, not a collection of separate route that are not connected or that lead to unsafe junctions.

Sydney's cycle network is fragmented and has gaps. This makes cycling in Sydney unsafe.

Map of separate and protected cycle routes in City of Sydney. Green lines mark which roads have this dedicated cycling infrastructure.



Widening pavements or clearly defining pedestrian priority encourages slower traffic and makes streets safer.
Safer road design for walking and cyclin on Wilson Street in Sydney after cycling infrastructure installed.

Design roads for slower speeds

To make cycling a viable travel option, cycling needs to be safe from origin to destination. To make cycling alongside motor vehicles, slower traffic speeds need to be designed for .

Road design features can be used to encourage lower traffic speed limits. We propose that local government install smart road design makes walking and cycling on the street safe. Road design that reduce traffic speeds include narrower road lanes, tighter corners at junctions and pedestrian crossing points.

Set safer traffic speed limits and enforce them

The roads in Sydney are overwhelmingly designed for fast-moving car traffic. Traffic across Sydney must be reduced to make it safe for cyclists. Slower traffic speed limits improve road safety. Lower traffic speed limits is a quick intervention to make street more welcoming to vulnerable road users including cyclists and pedestrians.

For traffic speed limits to be effective they will need to be enforced. In the medium-term the traffic speed limits should also be accompanied by road design changes that encourage slower traffic. Such design changes include narrower lanes, speed humps and frequent opportunities for pedestrian to cross.

Reducing speeds makes it safer for those cycling among motor traffic
Signage demarcating a High Pedestrian Area in Manly with a 30km/h traffic zone

Retime traffic signals

Traffic signals should be retimed and re-sequenced to enable cyclists to safely use the junction and for cyclists to be given due priority for cycling to be a viable travel option. This is includes retiming of traffic lights on cycling routes to include designated time for cycle movements and shift priority away from motorised traffic.

Cycling should be given early signalling or their own signalling phase to address ingrained motor-dominant road culture.

Retiming traffic signals with safer for those cycling among motor traffic
Traffic signal with dedicated green cycle for those cycling to safely cross

On local and residential streets with few motor vehicles, smart road design can encourage safer driving
Quiet residential street in Sydney with little traffic and cycling among motor traffic encouraged.

Building comprehensive cycling network

Sydney should create a cycling network with a hierarchy of cycling infrastructure. The cycling infrastructure should vary and be appropriate to the hierarchy of the road network. In broad strokes, Sydney should adopt the following hierarchy of cycling infrastructure for its future cycling network.

We are proposing a multi-tier roll out of the cycling network that creates safe links from all and to all destinations. On arterial roads, segregated cycle highways will offer direct and fast connections between local centres. On collector roads, segregated cycle lanes will offer comfortable and safe links to strategic centres. On residential roads, smart road design and traffic speed limits to encourage all road users to be calm and considerate, thereby creating a safe environment to cycle.

Collector road: cycle lane with road markings

One overarching principle is: the faster the motor traffic on the road, greater the protections between the motor traffic and vulnerable road users, including people cycling, needs to be. Therefore, on arterial roads protected and separate cycle paths are needed. On quiet residential roads with little traffic, people cycling alongside motor traffic can be safe.

The cycle infrastructure should connect where people want to go and make it easy for them to cycle those routes. Cycling routes should follow direct desire lines and minimise uphill cycling. Segregated cycle lanes should be built along all key arterial roads. Hilly routes, i.e. cycling routes frequent and steep elevation changes, are not suitable as cycle routes. They exclude the majority of potential riders by requiring high fitness. They also slow down cycle traffic significantly in comparison to motorised traffic.

This makes cyclists feel vulnerable and discourages beginners from continuing to cycle. All segregated cycle lanes on key arterial roads should be adjacent to the pavement where possible.

Low cost, low rise physical barriers make cycling along motor traffic safer.
Person cycling in kerb-adjacent cycle lane on a street in Sydney

Cycling paths separate and protected from motor traffic offer safe and fast links for people cycling.
Busy cycling path with people cycling in the City of Sydney

Planning for walking and cycling across new developments and to local centres needs to be central to new developments
A group of people cycling around a new development

Build cycle routes in new developments

All new residential development should include cycle routes that allow quick and easy travel around the new development. For example, cul-de-sacs should be connected via cycle routes to minimise travel times between homes.

All new developments should also financially contribute to the construction of safe and direct cycle routes to key community locations such as schools, public transport hubs and high streets.

Separate Space for Cycling and Walking

TfNSW should not fund new shared walking and cycling paths in urban settings going forward. In lower density areas of metropolitan Sydney, this might still be appropriate. However, in denser areas, they force pedestrians and cyclists, travelling at very different speeds, to share space. This is dangerous for both users. Sydney needs to create dedicated lanes with direct links along desire lines for cyclists. While creating dedicated spaces is much more expensive to deliver, it is the more effective and efficient option for Sydney.

Sydney should create cycle networks in Western Sydney starting retrofitting the street grids in Macquarie towns for cycling
Two young children cycling on a cycle path separate and protected from motor vehicles

Create a cycle grid in Macquarie towns in Western Sydney

There is an opportunity to transform the traditional grid layout of Macquarie towns in Western Sydney and retrofit a dense and well-connect cycle network. Cycle networks should be built in these towns, starting with an old town grid layout, with the longer term ambition of building out from the centre.

Mixed walking and cycling paths should not be funding in urban areas.
New cycling infrastructure - separate from the footpath - installed in the City of Sydney

Make cycling in Sydney convenient

Secure, accessible and affordable residential parking

Local government should provide safe, accessible and affordable residential cycle parking. Sydney needs to provide residential parking options to make cycling accessible to residents without outdoor space adjacent to their home to store their bikes.

There are many different solutions to provide residential parking. One is to replace an on-street car parking spot with a cycle hangar. This is widely used in London to create safe and affordable cycle parking for residents. The cycle hangar can store six bicycles. Residents register interest in a cycle hangar spot via the local government website. This is a very scalable solution. As demand for cycle parking increases, the local government can increase the cycle parking by installing a new cycle hangar.

In Sydney, if outdoor space around the apartments is not available, these lockers could be installed on car parking floors available in apartment buildings.

A cycle locker with space for six cycles in equivalent of one on-street car space
Example of cycling hangar offering safe cycle storage in London

Easy and safe cycle storage options are key to encouraging cycling
Vertical locker for safe cycle storage for residents

Prominent and plentiful cycle parking at key neighbourhood destinations such as a high street encourage cycling
Cycle corral with space for 12 cycles in one on-street car parking space

Easy, safe and convenient cycle parking options at public transport hubs encourage multi-modal travel
Example of double-decker cycle storage at Croydon station in London

Prominent and plentiful neighbourhood centre parking

Making cycle parking available on local high streets, near public transport stations and near schools is important. This cycle parking should be in prominent, obvious areas, not tucked behind corners. Where street parking is available on the street, a car parking space can be replaced with a cycle corral that can hold 12 bicycles.

This visual cue of cycle parking is important as it signals that cycling to that location is travel option and that parking will be available at that end of the trip. Parking needs to be readily available at both ends of the trip for cycling to be a travel option. Providing cycle parking at high streets and at other neighbourhood centres is therefore important to making cycling a viable transport option.

Prominent cycle parking at public transport hubs

Sydney should install prominent and plentiful cycle parking at public transport hubs. This will make multimodal travel more feasible and accessible for many. It will support a wider necessary shift from car travel to sustainable travel modes, including public transport and active travel.

Across the globe, many cities illustrate how to effectively provide cycle parking for travellers. To widen access to public transport and improve journey times for travellers, providing cycle parking is important.

Parking and shower/changing facilities at workplaces

Good end of trip facilities at workplaces can encourage cycling as a commute or business travel option. In addition to safe and accessible cycle parking, good workplace facilities, including showers, changing rooms, towel service and lockers, are key to making cycling a viable commute option, in particular when high standards of workplace attire and personal presentation are expected. Therefore, the provision of end-of-trip facilities are particularly important to support underrepresented demographics, including women and people of colour, taking up cycling.travel to the office in general a viable option.

High quality end of trip facilities including lockers, showers and towel service making cycling a travel option for employees whilst allowing professional presentation.
Example of locker available at end of trip facility at office building

Example towel service and changing room facilities

Signage along cycling routes makes navigate across the city by cycle easier
Example of signage specifically for those cycling along a cycle route in London

Example of very clear and minimalist signage for people cycling in New York City

Easy navigation for cycling in Sydney

Wayfinding specifically designed for people cycling is important to make navigating the city easy. Two types of wayfinding are particularly important and helpful for people cycling: signage and maps.

Navigation apps are predominantly designed for motor vehicle drivers. As Sydney plans to encourage wider uptake of cycling, it must also consider how to make easy for people cycling to navigate the city at speed and without a navigation system in the vehicle dashboard.

On-street signage

Information about their forward journey can be presented to cyclists in different formats, however it is important there is consistency and clarity in the design.

One important difference in signage for people cycling rather than people driving is that those cycling need more and repeated reassurance of being on the right track.

Signage is particularly important where people cycling are asked to share space, whether with motor vehicles or pedestrians.

Cycle routes on maps

Accessible maps such as those in London and New York City a key to making walking and cycling around the city easy.

Cycle hire stations and other street furniture offer good locations to install maps for those walking and cycling.

Some of these maps indicate travel times and rough distances. This can promote walking and cycling as a travel option to those using other transport modes. Therefore signage is key part of encouraging a shift to sustainable transport.

As with signage, clarity and minimalist design are vital to aid navigation.

Maps designed with for those cycling in mind make navigating by cycle easier.
Example of map in London with distance radius for those walking and cycling and key transport links highlighted

Example map in New York City showing what side of the road the cycling lane is. This level of precision is with those cycling in mind.

Making cycling in Sydney accessible

Access to cycles

Spread cost of cycle purchase

Finances can be an obstacle to taking up cycling. To make owning a cycle more accessible, a scheme that allows individual employees to receive a cycle and spread the cost of repayment over months or years.

In England, the government's Cycle to Work Scheme allows employees to buy a cycle from an approved retailer via a financial arrangement with the employer. The employer reclaims the the up front cost of the cycle and all necessary accessories (e.g. helmet and cycle lock) from the employees pay. The cost is taken before tax so there is a bottom line financial benefit to the employee.

To spread the cost of cycle purchases, employers or government should set up a scheme that allows individual employees to receive a cycle and pay for the cost of the vehicle over a longer period. In England, the Cycle to Work Scheme allows employees to buy a

Another route to broaden access to cycle purchase via financing would be financing of a new or used cycle via a novated lease (a financial arrangement currently available as a route to finance a car). Novated leases allow you to make repayments for your vehicle from your pre-tax salary under a 'salary sacrifice' scheme. This reduces the income an individual is taxed on. This would require change at the federal government level.

Support cycle leasing scheme

Offer financial arrangements that enable customer to lease cycles. This would give individuals access to a cycle without having to pay the whole upfront cost or make a large financial commitment.

This is particularly crucial to enabling e-cycle uptake as electric cycles are multiple times to cost of solely human-powered cycles. Broadening access to e-cycles in particularly valuable Sydneysiders. Sydney is hilly and therefore e-cycles are particularly attractive to make cycling across Sydney easier.

Facilitate cycle hire operators to operate in Sydney

Local government should facilitate cycle hire operators setting up across Sydney. One measure to encourage a cycle scheme is local government dedicating road space (e.g. car parking spaces) to create designated cycle hire parking, or 'virtual cycle docks'. This creates designated spaces for the user to park their cycle. This in turn minimises the cycle obstructing the footpath or other pedestrian spaces.

Another option to encourage cycle hire schemes being deployed in Sydney is for government to subsidise usage. Contracting cycle share organisations run services is a way manage service more directly and integrate them with other public transport services.

Cycle vehicle pool

Similar to a car hire scheme this would offer staff the option to use a cycle to travel for business.

Skills and confidence

Cycle maintenance

To make cycling more accessible, Sydney should be installing free-to-use public fix stations. At these stations, cyclists can easily fix small issues with their cycle such as a flat tyre or loose screw.

Fix stations make cycling more accessible to those without outdoor space adjacent to their home where they can fix their bike. Fix stations specifically address the 'lack of maintenance tools' barrier to cycling.

These fix stations will allow cyclists to continue their journey when a fault pops up suddenly. This will increase perceived journey reliability and, in turn, will encourage the uptake of cycling. The fix station will also offer the opportunity to temporary fix a flat tyre and continue the journey to a cycle mechanic to fix the underlying problem – rather than requiring the cyclist to abandon their journey mid-way and push their bike to a place where it can be fixed.

Offer free training

Training will broaden uptake of cycling. The City of Sydney already offer some cycle training and cycle confidence building workshops. Training to teach adults and children how to cycle is vital to encouraging a broader take-up of cycling. Training must include how to cycle on the roads.

In addition to training to cycling, cycle maintenance is another important skills for people wishing to cycle to develop. Therefore running courses to teach cycle maintenance will be valuable and will support wider uptake of cycling.

Public maintenance stations broaden who can cycle as those without private outdoor space can maintain their cycle
Example of public tyre pump station in Sydney

Training teaching how to cycle, improving cycling skills and developing confidence cycling is key to more people choosing to cycle
Adults on cycle confidence course

References

Infographic

Page	Created by	Data source
6	Camille Manley	United Nations (2013)

Maps

Page	Created by	Data source
5	Institute for Sensible Transport	Understanding the spatial relationship between cycling propensity and car dependence (May 2019)
14	Made by Oliver Lock	TfNSW Centre for Road Safety
15	Made by Cole Hendrigan	Data from Transport for New South Wales
16	Made by Uber Australia and New Zealand	Uber Eats data
18-19	Made by Cole Hendrigan	Data from Transport for New South Wales
20	Transport for New South Wales	Future Transport Strategy 2056
21	Made by Cole Hendrigan	Transport for New South Wales
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