

# Sustainable travel

Transport networks have significant environmental impacts – from the fuels used in vehicles to the land and resources needed for roads and railways.

Achieving sustainability will mean changing how we do things: changing how we power our vehicles; prioritising infrastructure and planning options that stabilise traffic levels, increasing walking, cycling and using public transport within our neighbourhoods; efficiently using point to point and car sharing services; and consolidating freight deliveries.

Doing things differently is a challenge, but also a huge opportunity for cleaner air, better liveability, lower fuel costs and a more productive NSW economy.



## Going electric

Electric vehicles are already the cleanest vehicles on the road by a wide margin. While their typical electricity supply – black coal, gas or brown coal – produces pollution at its source, the NSW electricity mix is rapidly becoming cleaner. Driven by falling renewable energy prices, and guided by the ‘NSW Electricity Strategy’, the mix will be predominantly renewable energy as soon as 2031. Within two decades, electric vehicles will drive with near zero fuel emissions.

A complete transition to electric vehicles is a precondition for achieving the NSW Government’s goal of net zero emissions by 2050 – but it cannot happen overnight. There are more than 5.8 million vehicles in NSW, with an average age of 10 years for cars, light commercial vehicles and light trucks. For heavy rigid trucks, it is almost 15 years. With annual passenger vehicle sales averaging 390,000 to 400,000 vehicles, the complete private car fleet will take decades to shift to zero emissions.

In the interim, cars remain the overwhelming mode of choice for travel in NSW, and traffic is growing. Between 2010 and 2019, vehicle kilometres travelled (VKT) in NSW grew from 70 to almost 80 billion kilometres, while Sydney traffic grew from 37 to 43 billion kilometres.

## Setting targets

Clear numerical targets allow sustainability or transport goals to be measured.

Transport for NSW has released the ‘Zero Emission Bus Transition Strategy’ to respond to the challenge of transitioning the bus fleet in NSW to Zero Emissions, and the NSW Electric Vehicle Strategy is intended to increase electric vehicle sales to 52% by 2030–31 and help NSW achieve net-zero emissions by 2050.

The NSW Government will use its bulk purchasing power to incentivise importers to increase the range of electric vehicle models they sell in New South Wales. It will do this by setting a target of electrifying NSW Government passenger vehicle fleet procurement by 2030, with an interim target of 50% electric vehicle procurement by 2026.

At a strategic level, we have adopted targets in our regional plans to increase the proportion of people walking, cycling or using public transport.

In setting targets, we must be mindful of the diversity of our State. Some of us live and work in dense and relatively established urban areas, some in middle or outer ring suburbs, and many in regional towns and cities.

Opportunities for increasing the uptake of public transport, walking and cycling differ dramatically. They are greatest in walkable places with excellent public transport and ample local services. Conversely, where distances are long, frequent public transport is not viable, and local services are few, changes may not be realistic.

Given the complexity of settlement patterns, generalisations about transport options can be difficult. To measure public transport accessibility levels (PTAL), Transport uses a publicly available dataset that incorporates real timetables and distances. It shows how variations in locations affect access to public transport.

### Targets around the world

Globally, many jurisdictions have adopted targets to stabilise or reduce total traffic.

**Scotland** has adopted a target to reduce total driving distance by 20%.

**California** uses reductions in vehicle miles travelled as a key metric for determining consistency with its mandatory greenhouse gas targets.

**Washington** has a goal of reducing driving by 30% by 2035.

**Minnesota** has adopted a preliminary goal of reducing vehicle miles travelled by 20% by 2050.

The PTAL tool can also be combined with mapping that includes local jobs, schools and services.

When compared with existing travel behaviour – such as how much driving or walking occurs in an area – it is possible to identify locations where actions could be taken to discourage high levels of driving, without undermining people's quality of life or access to jobs and services.



A Public Transport Accessibility Level map of inner Sydney showing that green areas are the most accessible by public transport.



**How could transport targets be differentiated within cities, or between cities and regions?**

## Stabilising traffic

While the COVID-19 pandemic has suspended immigration-driven population growth, the end of the pandemic will see NSW return to high rates of population growth, particularly in Greater Sydney. Stabilising traffic in a growing State does not mean eliminating cars, or even reducing car ownership. It means providing safe and convenient alternatives so many trips do not need to be made by car, and those that do are made in cleaner vehicles.

Initiatives that could improve mobility without increasing traffic include:

- › **Prioritising projects that stabilise or reduce total traffic** – transport planning models that are commonly used to assess projects, development proposals and strategic plans in NSW can readily produce estimates of VKT. Using VKT as a measure helps us choose between options that raise or lower total traffic. In some jurisdictions, this has replaced other measures of transport impacts, such as levels of service.
- › **Encouraging higher vehicle occupancy** – vehicles that have more passengers make better and more efficient use of our limited urban road space. Extending transit lanes or other priority measures can prioritise vehicles with more passengers, allowing more travel with less traffic. Innovative solutions to address non-car modes and projects that would help to reduce VKT can be tailored to different needs and locations, for example community transport and on-demand bus services in areas that require different approaches to traditional mass transit.
- › **Consolidating freight deliveries** – fully loaded vans, trucks and delivery vehicles make the most efficient use of the road network. By facilitating the consolidation of freight, and actively prioritising efficient delivery vehicles, the NSW Government can minimise traffic.
- › **Reducing the need to travel** – the COVID-19 pandemic has accelerated the trend to remote working and shopping. Other services, such as professional and medical consultations, are also likely to shift partly online. By reducing the obligation to travel, total traffic can be reduced with real benefits to communities and families.



**Should targets be adopted to limit traffic growth? If so, where?**

## Role of shared mobility

The transport sector is a magnet for digital innovation. The advent of online mapping has changed the way we navigate, and phone-based apps continue to offer new and more convenient ways to plan, book and pay for travel. Car sharing, ridesharing and car pooling have brought new choices and options for private travel, while on demand public transport offers new types of bus services.

### Point to Point transport

Ridesharing – or point to point – services such as Uber and Ola have been growing rapidly in Sydney, and are becoming more common in regional cities.

Ridesharing can change how our transport networks operate. Trips that are made by ridesharing rather than a private vehicle can reduce demand for parking, and potentially reduce total car ownership as customers embrace the choice and flexibility it offers.

Conversely, ridesharing can displace trips that would otherwise be made on foot, by bike, or by public transport. It can increase the impacts of each trip, as vehicles run without passengers to the start of each journey.

A number of transport authorities such as the San Francisco County Transportation Authority, have concluded that single occupant ridesharing in petrol vehicles can increase greenhouse gas emissions and worsen traffic. Analysis undertaken by the Union of Concerned Scientists found that ridesharing trips in a selection of United States cities were ‘about 69 per cent more polluting as the trips they displaced’.<sup>1</sup>

But there are opportunities to reduce the impacts of ridesharing, and to prevent it from undermining the viability of public transport services.

Encouraging shared vehicles – car pooling – significantly reduces the emissions and congestion impact. Measures that prioritise multi-occupant vehicles, such as the wider roll out of transit lanes, can offer faster journeys for shared vehicles, strengthening incentives for both drivers and passengers.

There are also opportunities to focus on electrification incentives for shared vehicles, including taxis. Given these vehicles cover large distances, the low fuel cost of electricity and low maintenance costs mean they are well placed to benefit from electrification.

#### Electric car sharing

Free floating or one-way car sharing is now widespread in European cities, often with fully electric fleets.

Car sharing can reduce resource use, free up on-street parking, and give more choices to households who may not need to own a first or second car.

The operation of car sharing, especially free floating services, is complicated by multiple parking authorities. A drive from The Rocks to Bondi Beach in Sydney, for example, could pass through 4 different parking authorities.

By removing red tape, the NSW Government could bring an all-electric, free floating car sharing trial to Sydney.



**How can we ensure the sustainability of new transport services like car sharing and ridesharing?**

<sup>1</sup> Anair Don, Jeremy Martin, Maria Cecilia Pinto de Moura, and Joshua Goldman. ‘Ride-Hailing’s Climate Risks: Steering a Growing Industry toward a Clean Transportation Future’. Cambridge, MA: Union of Concerned Scientists. 2020.

## Sharing data

Understanding the impacts and opportunities of shared mobility means collecting data on how travel is changing.

Transport systems generate huge amounts of data: the Opal ticketing system records customers tapping on and off; trains automatically estimate passenger loads; buses update their location; and millions of data points are registered by cycle counters, loop detectors, CCTV cameras, parking sensors, and GPS beacons.

Data is key to managing the transport network. It helps identify accidents, direct emergency services, monitor crowding levels on stations, control intersections and clear queues after major events. It allows us to communicate rapidly with customers, and provide accurate information on waiting times, route options, crowding and onward connections.

Innovation is constantly expanding the sources of data that can improve customer journeys. Both public and private sector transport operators have rich sources of data on freight flows, vehicle counts, taxi movements, car sharing use, ridesharing and e-bike hire. As technology evolves, greater sharing of mobility data will help plan networks, reduce emissions and continue to improve the experience of customers.

Transport data is sensitive. The privacy of individual journeys is paramount, and data owned by operators may be commercially sensitive. A rigorous framework for sharing mobility data should prioritise the public interest in a safe, efficient and sustainable transport network, and should be balanced against innovative outcomes, competition and public confidence in privacy.



Car sharing of fully electric fleets is widespread in Europe.



**What are the barriers to sharing mobility data and what can be done to reduce them?**



**Have your say**

Please provide your feedback at  
[haveyoursay.nsw.gov.au/future-transport](https://haveyoursay.nsw.gov.au/future-transport)

## What happens to my feedback?

Thank you for sharing your views with Transport for NSW. We will consider your input and will share the draft Future Transport Strategy when it is published via the email address you provided.