

Motor Vehicles and Parking Discussion Paper



Introduction

The City of Adelaide faces significant challenges related to high levels of car use, including traffic congestion, car dependency, and the health and environmental impacts of vehicle emissions. Many of our streets are dominated by cars, making people less likely to walk/wheel, cycle, or spend time enjoying public spaces.

This discussion paper is intended to inform the development of the City of Adelaide's Integrated Transport Strategy (ITS) to 2036. It seeks to gather input on these issues during our engagement process in 2024. As Adelaide grows, it must balance the needs of residents, businesses, and visitors. While the city faces these challenges, there are also many opportunities to create a more sustainable, efficient, and equitable transport system.

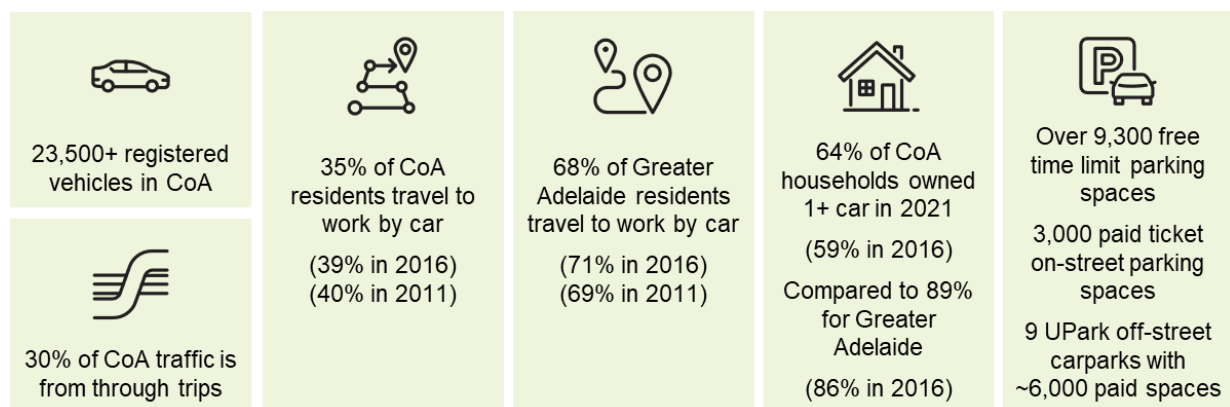
By building on existing policies, embracing new technologies, and prioritising sustainability and equity, Adelaide can develop a transport strategy that supports both the needs of its residents and the city's future growth. A bold, aspirational and innovative city offers a variety of transport options that people can access throughout their lives, enabling them to undertake different activities each day.

People are multi-modal, regularly using various modes of transport across different journeys, days, or weeks. Transport choices often depend on factors such as weather, time of day, or travel companions. Over time, people's transport needs change based on their life circumstances. This discussion paper focuses on motor vehicles—defined as cars, trucks, and other vehicles powered by internal combustion engines or electric motors—and parking, which refers to the spaces designated for motor vehicle storage, both temporarily and long-term.

Considering the role of motor vehicles and parking is important when developing the ITS, as it will shape the future of Adelaide's transport network and play a key role in improving liveability and the overall experience of the city for all who live, work, and visit.

Strategic Context and Current Situation

Adelaide's transport policies have evolved over the decades. Historically policies have focused on expanding road networks and providing ample parking to accommodate the increasing number of private vehicles. This approach led to significant congestion, environmental concerns, and inefficient land use. Recently this has started shifting to an integrated mode approach.



The need for change

As cities around the world adapt to modern transport challenges, it has become increasingly clear that Adelaide must move beyond its historical focus on car-centric infrastructure. The reliance on private vehicles has contributed to not only congestion and environmental degradation but also to a diminished quality of life for those who walk/wheel or cycle. Reliance on private cars contributes also to increased living costs. In addition, as other transport choices are limited by the amount of network capacity allocated to car traffic and parking, the necessity of car ownership grows, further intensifying cost of living pressures. To create a more sustainable, liveable, and equitable city, it is important to prioritise a

broader range of transport options that reduce car dependency and promote healthier, more efficient modes of travel.

A shift towards greater use of public and active transport would help alleviate the significant impact of road congestion across the metropolitan network, particularly in the Adelaide Central Business District (CBD), thereby enhancing liveability¹. According to Infrastructure Australia, the cost of road congestion in Adelaide is projected to rise to \$7.6 million per weekday by 2031, highlighting the importance of encouraging active and public transport modes to mitigate future congestion.

Policy and strategy

Motor vehicle and parking policies in Adelaide must address the city's overreliance on private cars, focusing on reducing congestion, lowering emissions, and optimising the use of urban space. Key strategies include encouraging the transition to low-emission vehicles, enhancing parking management through dynamic kerbside allocation, and promoting shared mobility solutions. These initiatives aim to ensure that parking spaces are used efficiently while accommodating freight, public transport, and active travel. Aligning transport policy with the city's climate goals is vital for reducing emissions and improving liveability. The City of Adelaide Integrated Climate Strategy emphasises the need for sustainable transport options to support emissions reduction targets. Additionally, reports from Engineers Australia⁴ and Austroads⁵ highlight the importance of reducing car dependency and implementing demand management strategies, such as parking pricing and vehicle access restrictions, to achieve sustainable outcomes.

Adelaide's current integrated planning approach aims to reduce car dependency by promoting public transport, cycling, and walking. The city's policies now emphasise the importance of sustainable urban mobility, efficient land use, and improving the quality of public spaces. Key policy documents include the Integrated Transport and Land Use Plan (ITLUP), which outlines strategies for managing traffic, enhancing public transport, and improving pedestrian and cycling infrastructure.

Current impacts of motor vehicles and parking

Motor vehicle use in Adelaide has contributed significantly to the city's congestion, emissions, and the inefficient use of urban space. Research shows that over-reliance on private vehicles has led to increased greenhouse gas emissions and reduced opportunities for physical activity, which in turn exacerbates public health concerns such as obesity and cardiovascular diseases⁴. Many of these issues will not be resolved by the electrification of private cars. The City of Adelaide's Strategic Plan (2024–2028)² recognises the need to transition to a more sustainable and resilient transport system to mitigate these issues, promoting a shift from car dependency to integrated modes of transport (City of Adelaide, 2023).

Motor vehicle use has also evolved over time, influenced by socio-demographic factors such as age, gender, and income. For instance, younger generations are increasingly shifting towards public transport and shared mobility options, while older adults, particularly those with mobility challenges, remain more dependent on private vehicles. Gender differences are also evident, as women tend to use public transport more frequently than men, who are more likely to drive³³. Addressing these disparities requires targeted policies that ensure equitable access to sustainable transport options for all segments of the population.

¹ Infrastructure SA. (n.d.). *South Australia's 20-year State Infrastructure Strategy: Discussion paper* (p. 24).

² City of Adelaide. (2023). *Strategic Plan 2024–2028*. City of Adelaide.



Figure 1 Images of Adelaide's roads and existing congestion

Source: AECOM

Current road safety situation

Adelaide faces ongoing challenges in road safety related to motor vehicles and parking. The high reliance on private vehicles has not only contributed to congestion but also led to an increased risk of road accidents and fatalities. According to Engineers Australia's Road Safety Policy Advice Paper (2023)³³, road fatalities in Australia remain significantly higher than in other comparable countries, with a stagnation in improvements despite national road safety strategies. The City of Adelaide has experienced a similar plateau, with motor vehicles being a dominant factor in road crashes. Vulnerable road users, such as pedestrians and cyclists, are particularly at risk in car-dominated environments, especially in areas with inadequate parking management and infrastructure that prioritises vehicles over active transport modes.

Furthermore, poorly managed parking can contribute to unsafe conditions for all road users. When parking is not efficiently planned or monitored, it can result in dangerous behaviours such as illegal parking in pedestrian zones or at crossings, creating additional hazards for pedestrians and cyclists. Efforts to improve road safety in Adelaide need to address these factors, emphasising better parking management, speed reductions in critical areas, and improvements in infrastructure to protect vulnerable road users.

Best Practice Review

In addressing motor vehicle and car parking challenges in the City of Adelaide, several key directions can be drawn from existing policies and frameworks. A central theme across various cities, including Melbourne and Hobart, is the increasing emphasis on reducing car dependency and promoting more sustainable forms of transport. The City of Melbourne has adopted a Strategy including policy³ that advocates prioritising reducing traffic congestion through road pricing and investing in public and active transport options. Engineers Australia has highlighted the need for less focus on road expansion and more on integrating different modes of transport to reduce congestion⁴. These directions point towards a balanced approach where cars remain part of the transport mix but are managed more effectively in conjunction with active transport and public transit.

Austrroads' supports this shift, advocating for more walkable and cycle-friendly cities. In Adelaide, active transport can be prioritised through the development of cycling infrastructure and safer pedestrian routes, especially in areas of high vehicle congestion⁵. This approach aligns with Engineers Australia's call for a sustainable mobility management system that encourages walking and cycling over car use, thereby reducing emissions and improving public health. In implementing such strategies, Adelaide could consider reallocating road space to create dedicated bike lanes and pedestrian-friendly streets, as seen in cities like Portland and London⁶.

Car parking remains a significant issue, particularly in dense urban areas. The Committee for Adelaide⁷ has stressed the need to rethink car parking provision where parking demand often competes with other land uses. San Francisco (SF) has implemented the SF Park system which is based on dynamic parking pricing⁸. This adjusts charges based on real-time demand to manage parking availability. SF Park provides a valuable example of how cities can use data-driven pricing to improve parking efficiency and reduce congestion. Adelaide could implement similar dynamic pricing models for parking,

ensuring that spaces are used efficiently, and that the revenue generated is reinvested in public transport and active transport infrastructure.

The environmental and public health benefits of reducing car dependency also align with broader sustainability goals. The Australian transport sector is a major contributor to greenhouse gas emissions, and cities like Adelaide can contribute to national emissions reductions targets by prioritising sustainable transport options. Reducing reliance on cars and enhancing public transport options would not only decrease pollution but also improve community health by encouraging more walking and cycling.

Economic benefits and issues

Economic considerations play an important role in this transition. While road congestion costs Adelaide millions annually, investments in public transport and active transport have been shown to generate significant economic returns. Melbourne's strategy indicates that road user pricing and reduced car dependency can improve urban liveability, which in turn enhances property values and attracts businesses. Engineers Australia has identified⁹ that reducing congestion can lead to savings in infrastructure spending, as the demand for new road expansions is mitigated by shifting people towards more space efficient and sustainable transport modes such as public and active transport.

Adelaide's motor vehicle and parking strategy approach could focus on managing car use through pricing mechanisms, reallocating road space for sustainable transport modes, and improving public transport connectivity. Drawing on successful examples from Melbourne, Hobart, and international cities, these strategies can deliver long-term economic, environmental, and social benefits.

Healthy Streets

The Healthy Streets approach is a comprehensive human-centred framework developed to improve urban health and well-being by making streets more accessible, safe, and enjoyable for everyone¹⁰. It prioritises walking, cycling, and public transport over car

³ City of Melbourne. (2019). *Transport strategy 2030*. City of Melbourne.

⁴ Engineers Australia. (2023). *Urban transport systems: Policy and planning advice*. Engineers Australia.

⁵ Austrroads. (2024). *Prioritising active transport*. Austrroads.

⁶ City of Melbourne. (2018). *Reducing traffic for better streets: Transport strategy discussion paper*. City of Melbourne.

⁷ Committee for Adelaide. (2023). *Benchmarking report*. Committee for Adelaide.

⁸ SF Park. (2014). *SFpark pilot project evaluation: Summary report*. San Francisco Municipal Transportation Agency.

⁹ Engineers Australia. (2023). *Urban transport systems: Policy and planning advice*. Engineers Australia.

¹⁰ London City Hall. (n.d.). *Healthy Streets*. Retrieved June 2024, from <https://www.london.gov.uk/programmes-strategies/health-and-wellbeing/transport-and-health/healthy-streets>

use, aiming to reduce air pollution, enhance air quality, and create greener, more liveable communities. The approach is based on ten indicators, including factors such as ease of crossing, availability of shade and shelter, noise reduction, safety, and the provision of spaces for rest and social interaction. By integrating green infrastructure and engaging with the community, Healthy Streets seeks to foster inclusive urban environments that support physical activity, social interaction, and overall well-being.



Figure 2 Healthy Streets indicators

Source: Lucy Saunders, Healthy Streets

Engagement: What We've Heard

Based on community engagement undertaken previously on a number of City of Adelaide projects, we have heard the following from you:

- There is a high proportion of trips by private vehicle which occurs within 5km: short trips. These present an opportunity for trips to shift to sustainable modes.
- Improve the safety for all users of the city, ensuring access for people of all ages and abilities. Strategies such as traffic calming treatments to streets and reducing speed limits to 30 km/h brings benefits to cities such as reduced pollution (noise and air), increased safety outcomes for people walking, wheeling and cycling. Safer streets helps to facilitate a more sustainable city.
- A number of barriers, real or perceived, to active transport and public transport use results in more people driving in Adelaide.
- Consideration if there is there a role for park and ride facilities outside of the Park Lands, to then allow for active transport being used for last mile access to the city.
- A number of primary vehicle transport corridors passes through locations of high place and city experience value, generating noise and emissions pollution. Opportunity to consider a low emission zone for the city.
- Roads and cars are very prevalent in the public realm in Adelaide, sometimes forming a barrier to access to experiences and locations like the Park Lands.
- What is the true cost of driving in Adelaide? Can the noise, emissions, pollution and space for parking be quantified?
- Encouraging movements around the city rather than through. Maintaining access for private vehicles but reduce the number of vehicles that use the city as a thoroughfare. Strategies such as a traffic circulation plan and modal filters can support this.

In the development of this paper, a number of stakeholders have been consulted with, including the City's Access & Inclusion Panel, Project Steering Group and the City of Adelaide Parking Teams. Key inputs include:

- The role the City of Adelaide's street network plays in facilitating movement: connectivity and accessibility within metropolitan Adelaide.
- Green spaces and open spaces such as the Park Lands and squares are difficult to access due to road infrastructure and vehicle speeds forming a barrier to people walking, wheeling and cycling.
- The significant role of parking, on- and off-street, plays in the revenue of the City.
- Opportunity to simplify the different parking controls within the city to simplify access for drivers, reducing circulation and traffic.
- Consider how technology can enable efficient journeys, including features such as identifying accessible parking.
- The role the planning system plays in supporting achieving long-term city-wide transport objectives.
- On-street parking is on valuable urban land which could be used for other public amenities, such as space for people, city economy, urban greening, as ample parking is provided off-street in the city.
- Consideration of the alignment with the Electric Vehicle Charging Infrastructure Transition Roadmap.

Summary of issues, barriers and opportunities

People's use of different transport modes varies significantly based on daily, weekly, and monthly needs, influenced by factors such as weather, life stages, and major life events like moving or economic changes. This variability underscores the necessity of providing diverse transport options to enhance accessibility and liveability.

In Adelaide, high car dependency leads to significant traffic congestion and greenhouse gas emissions, particularly during peak hours. Barriers include the entrenched use of private vehicles, which are often more convenient than other transport options, leading to persistent congestion and environmental impacts. Additionally, existing infrastructure heavily favours car use, making it challenging to shift towards more sustainable modes of transport.

Opportunities for improving transport include promoting diverse and sustainable transport options to enhance accessibility and liveability. Efforts to reduce car dependency through disincentivising car use, implementing modal filters, and enhancing public and active transport infrastructure can mitigate traffic congestion and environmental impacts. Addressing climate change risks by reducing transport emissions through the adoption of electric vehicles and expanding charging infrastructure is also crucial. Furthermore, improving parking management, ensuring equitable access to various transport modes, and enhancing road safety are vital steps towards creating a sustainable, efficient, and inclusive transport system for Adelaide.

Issue	Theme (Factor)	Responsibility (State or CoA)	Issue / Barrier	Opportunity Potential Removal/Mitigation of Barrier
Motor vehicle usage	Car dependency	CoA, State	High rate of car ownership and dependency leading to congestion and emissions.	Shift focus to sustainable transport modes.
Mode shift	Reducing car use	CoA, State	Overprovision of road capacity and funding for motor vehicles.	Improve infrastructure for public and active transport to make these modes more attractive.
Unequal transport choices	Accessibility and equity	CoA, State	Limited transport options for certain groups, leading to car dependency.	Provide a variety of transport modes accessible to all.
Climate change risk	Emissions reduction	CoA, State	High emissions from motor vehicle use contribute to climate change and worsen urban heat island effects.	Promote electric vehicles and enhance public/active transport infrastructure.
Traffic congestion	Congestion management	CoA, State	High vehicle numbers, particularly during peak hours, exacerbate congestion and reduce quality of life.	Improve public transport and promote modal shift away from cars.
Through traffic	Traffic management	CoA, State	Vehicles passing through without contributing to the city economy increase congestion and diminish city experience.	Deprioritise traffic capacity within CBD to discourage unnecessary traffic away from the city centre.
Parking supply and demand	Parking management	CoA	Inefficient distribution of parking, with surplus in some areas and shortages in others.	Better manage parking supply and demand through dynamic pricing and real-time parking information systems.
Parking infrastructure	Infrastructure efficiency	CoA	Oversupply in some areas, undersupply in others, leading to inefficient use of urban space.	Optimise parking infrastructure by adjusting supply based on demand.
Traffic noise	Noise pollution	CoA	Traffic noise, particularly during peak hours, negatively impacts health and well-being.	Reduce noise by promoting quieter transport modes (e.g., electric vehicles) and better urban planning.
Taxi and rideshare services	Regulation and compliance	CoA	Decentralised rideshare services present enforcement risks (e.g., double parking, blocking bike lanes).	Regulate rideshare services to reduce enforcement risks and ensure safe, equitable service provision.
Sustainability	Environmental impact	CoA	Overreliance on cars contributes to environmental degradation.	Prioritise sustainable transport modes and reduce vehicle emissions.

Issue	Theme (Factor)	Responsibility (State or CoA)	Issue / Barrier	Opportunity Potential Removal/Mitigation of Barrier
Efficiency	Resource optimisation	CoA	Inefficient use of land and resources for parking and road expansion.	Promote more efficient transport systems that use less space (e.g., public transport, bikes).
Parking user experience	Customer satisfaction	CoA	Frustration due to difficulties in finding and paying for parking.	Continue to improve parking systems with better information, payment systems, and availability management.
Equity	Transport access	CoA	Limited access to transport options disproportionately impacts disadvantaged groups (e.g., elderly, low-income, women).	Ensure equitable access to transport options across all socio-demographic groups.
Vehicle access and social equity	Fair transport access	CoA	Inequity in vehicle access and parking privileges, especially for vulnerable populations.	Balance access to transport modes, including cars, to ensure fairness.
Transport technology	Technological innovation	CoA, State	Emerging transport technologies may induce more traffic and challenge city planning goals.	Ensure new technologies align with sustainability and liveability goals.
Speed limits	Safety	CoA	Speed limits in the city are higher than best practice, leading to increased pedestrian fatalities.	Lower speed limits to improve pedestrian safety.
Car parking and congestion	Traffic flow	CoA	Searching for parking increases congestion and emissions.	Optimise parking availability and use pricing mechanisms to reduce unnecessary car use.
Road safety	Public safety	CoA, State	Insufficient tracking and reporting on road safety efforts lead to a lack of progress in reducing fatalities and serious injuries.	Set clear targets and track road safety progress.
Accessible car parks	Inclusivity	CoA	Inadequate provision of accessible parking spaces for people with disabilities.	Increase the number of accessible parking spaces close to key destinations.
Motorcycles and scooters	Space efficiency	CoA	Noise issues caused by petrol motorcycles and scooters.	Promote the use of electric motorcycles and scooters for single-user trips and deliveries.

What are the current issues?

Motor vehicle usage

Greater Adelaide has a high rate of car ownership, with most households owning at least one vehicle¹¹. This car dependency results in significant traffic congestion in the City of Adelaide, particularly during peak hours. The reliance on vehicles is also a significant contributor to local greenhouse gas emissions.

Mode shift

Disincentivising driving is a key strategy in shifting towards more sustainable public transport and active travel. Reducing the incentives for car use is crucial in promoting better transport choices. Prioritising measures that support this shift can help implement strategic objectives effectively¹². A well-considered traffic circulation plan with modal filters is critical to successfully achieving the desired outcomes.

Overprovision of road capacity and prioritised funding for motor vehicles continues to be a major barrier to supporting other transport modes^{12,14}. Mode shift towards public and active transport is driven by reducing the accessibility and convenience of car usage while simultaneously improving the infrastructure and accessibility of other transport modes. Although this relationship may not always appear direct, a significant shift away from cars is unlikely without a deliberate reduction in the level of service provided to motor vehicles. This includes reallocating road space, adjusting pricing mechanisms such as parking fees, and limiting road expansion.

Unequal transport choices

People regularly use different modes of transport across any given journey, day, week, or month. This varies in both the short and long term as people's needs and priorities change. Depending on the time of day, people may choose to travel differently depending on the weather, to travel with others, or for other reasons. Throughout various stages of life, people use some forms of transport more or less than others due to their life circumstances. For example, the very young and very old are unable to drive cars, and similarly, others are unable to walk or cycle for the trips they need to make.

Life events such as moving house or jobs, having children, economic situations, and major disruptors or events like COVID and cost of living pressures can be opportunities for change, even though change can be difficult, especially for habitual travel patterns. Realising and capitalising on these opportunities to promote diverse transport options is important. One common factor is that people with more transport options available will use them more often, giving them greater access to goods, services, and activities. Conversely, people who live in places with fewer travel options will have fewer opportunities overall. Lack of a range of transport choices leads to higher levels of driving.

To create a highly liveable, prosperous, and resilient city, it is essential that people have a range of transport choices available to them each day and at each stage of their lives to undertake different activities. There is an opportunity to improve the variety of transport modes available to the most people, thereby increasing the accessibility and liveability of Adelaide.



Figure 3 Virtuous cycle of smart growth and multi modal transport

Source: Understanding Smart Growth Savings: Evaluating Economic Savings and Benefits of Compact Development , Victoria Transport Policy Institute

¹¹ Car Ownership, Census 2021, Australian Bureau of Statistics

¹² Fishman, E., Naseri, M., Davies, L., Tran, J., & Katsu, T. (2024). *Prioritising Active Transport*. Austroads Ltd.

Climate change risk

Climate change poses significant risks to transport and driving in Adelaide, contributing to increased greenhouse gas emissions and exacerbating extreme weather events like heatwaves and floods. The city's Integrated Climate Strategy¹³ highlights the need to reduce emissions from transport, which accounts for 45% of community carbon emissions, by promoting electric vehicles and enhancing public and active transport infrastructure. Additionally, urban heat island effects, caused by vehicle emissions and heat-absorbing infrastructure, worsen the city's liveability and health outcomes during extreme heat.

Traffic congestion

Traffic congestion remains a significant issue in the City of Adelaide. The increasing number of vehicles exacerbates congestion, leading to longer travel times, increased emissions, and reduced quality of life.

In the past, there has been a "predict and provide" approach for a growth in car driving and parking in the city, which has entrenched automobility and led to a car-dominated city. Now good practice is to have vision led planning: "vision and validate" for preferred options to increase accessibility and align with strategic objectives¹⁴.

- 5% more trips are made by car in Adelaide than the average among its peers.¹⁵
- Adelaide currently ranks last among peers for the quality of its bike network.¹⁶
- Adelaide is the only peer city where the number of hours lost to congestion has increased since 2019.¹⁷

Increasing road capacity through road and intersection widenings and additional car parking has paradoxically led to more congestion. Projects designed to reduce travel times or alleviate congestion have instead caused induced demand, resulting in even higher congestion levels. Without a strategic shift towards enhancing public and active transport options, Adelaide's heavy reliance on cars will continue to hamper global competitiveness and liveability, as congestion and inefficiency rise¹⁸.



Figure 4 Traffic volumes in the City of Adelaide

Source City of Adelaide/AECOM

Through traffic

Through traffic is the term used to describe motor vehicles passing through a city without stopping or contributing to the city economy. Through traffic poses significant challenges for Adelaide, contributing to congestion, increases travel times, and diminishes the experience and liveability of the central city.

Parking supply and demand

Managing the supply and demand for parking is a complex challenge. While some areas experience a surplus of parking spaces, others face shortages on street at peak times due to misaligned expectations of parking availability. This leads to frustration for drivers and inefficient and inequitable use of public space. Additionally, cheap or free parking often incentivises car use, contributing to congestion.

Traffic signals

Traffic signals are an important element in operating Adelaide's transport network. They can play an role in improving mobility, and supporting the city's broader goals of encouraging a shift towards more

¹³ City of Adelaide. "Integrated Climate Strategy 2030: Resilient, Protected, Sustainable." 22 November 2023

¹⁴ Engineers Australia. "Urban Transport Systems: Policy and Planning Advice." August 2023

¹⁵ Google Environmental Insights Explorer - % of total combined kilometers by mode

¹⁶ PeopleforBikes

¹⁷ INRIX 2022 Global Traffic Scorecard:

¹⁸ Committee for Adelaide. "Benchmarking Adelaide 2023." (2023)

sustainable transport modes, such as walking, cycling, and public transport. Past engagement has revealed that many people walking and cycling are currently experiencing excessive delays at traffic signals, which can deter them from choosing these sustainable modes of transport. Optimising traffic signal timing to reduce pedestrian wait times is critical to improving walkability and encouraging more people to walk as part of their daily routines¹⁹. Optimising signal timing offers a significant opportunity to improve the operational efficiency of the transport network across all modes²⁰. This can also enhance safety and give people walking, wheeling and cycling the necessary time to cross streets safely and confidently.

Public transport travel times can be improved by implementing traffic signal systems that detect approaching buses or trams and ensuring that this leads to timing improvements to give them priority, reducing delays and improving service reliability. By managing vehicle flow while giving precedence to space efficient transport modes, the city can reduce its environmental footprint and create a more liveable urban environment. Optimising traffic signals in this way should be aligned with the objectives of the city's integrated transport strategy, ensuring that all modes of transport are accommodated, and contributing to a more efficient, safe, and sustainable city.

Parking infrastructure

Adelaide offers a mix of on-street and off-street parking options, including public and private facilities. The City has implemented parking management strategies to balance supply and demand, such as time-restricted parking, paid parking zones, and residential parking permits. However, there are still issues with oversupply in some areas and undersupply in others, leading to inefficient use of space. Parking is a valuable asset and this is not reflected in the price, leading to inefficient mode choices. UPark are investing in parking technology to provide City Parkers a single platform solution which will enable parkers easier access to more parking options to greater reduce circulation of traffic. As the council owned U Park car parks age, it presents an opportunity to assess ongoing maintenance costs and to re-evaluate the site use and its value proposition to Council and the city.

Taxi and rideshare services

The way that we access taxis has shifted significantly in recent years due to changes in the industry enabled by smartphones. The increasingly decentralised nature of rideshare has changed the way that drivers and passengers access vehicles. Ranks are no longer the primary way that people locate an available vehicle. For the City of Adelaide this represents an opportunity to review how taxi ranks and pick up and drop off zones are used across the city.

Parking user experience

The process of finding and paying for an available car park can be improved to reduce frustration and improve customer experience. Drivers currently expect to be able to find an available car park at low or no cost across almost all of Adelaide. In the City of Adelaide this expectation is becoming less realistic and more difficult to meet. Improving the information provided to drivers can help match user expectations to reality. There are also many improvements that can and are being made to improve the experience of finding and paying for a car park, especially off street so that the externalities of driving on transport choices for other modes of transport are reduced. This could extend to better education on fees and fines to make parking fairer for everyone.

¹⁹ City of Melbourne. (2015). *Walking plan 2014–2017*.

²⁰ Austroads. (2019). *Guide to traffic management part 9: Traffic operations* (3rd ed.). Austroads Ltd.

Traffic noise

In Adelaide, particularly in the CBD, traffic noise significantly impacts the acoustic environment, with marked variations between day and night²¹. During the day, the busiest periods coincide with rush hours, leading to elevated noise levels, especially in areas near major arterial roads such as King William Road and West Terrace. Traffic volumes decrease substantially after 10 pm, leading to quieter conditions at night, although noise from entertainment venues and public events can still be noticeable. Traffic noise has negative impacts on residents' health and well-being, contributing to issues such as sleep disturbances, increased stress levels, and reduced quality of life. However, even during quieter periods, the cumulative noise impact remains a concern, with the northern CBD experiencing the highest levels of discomfort due to its dense traffic and infrastructure.

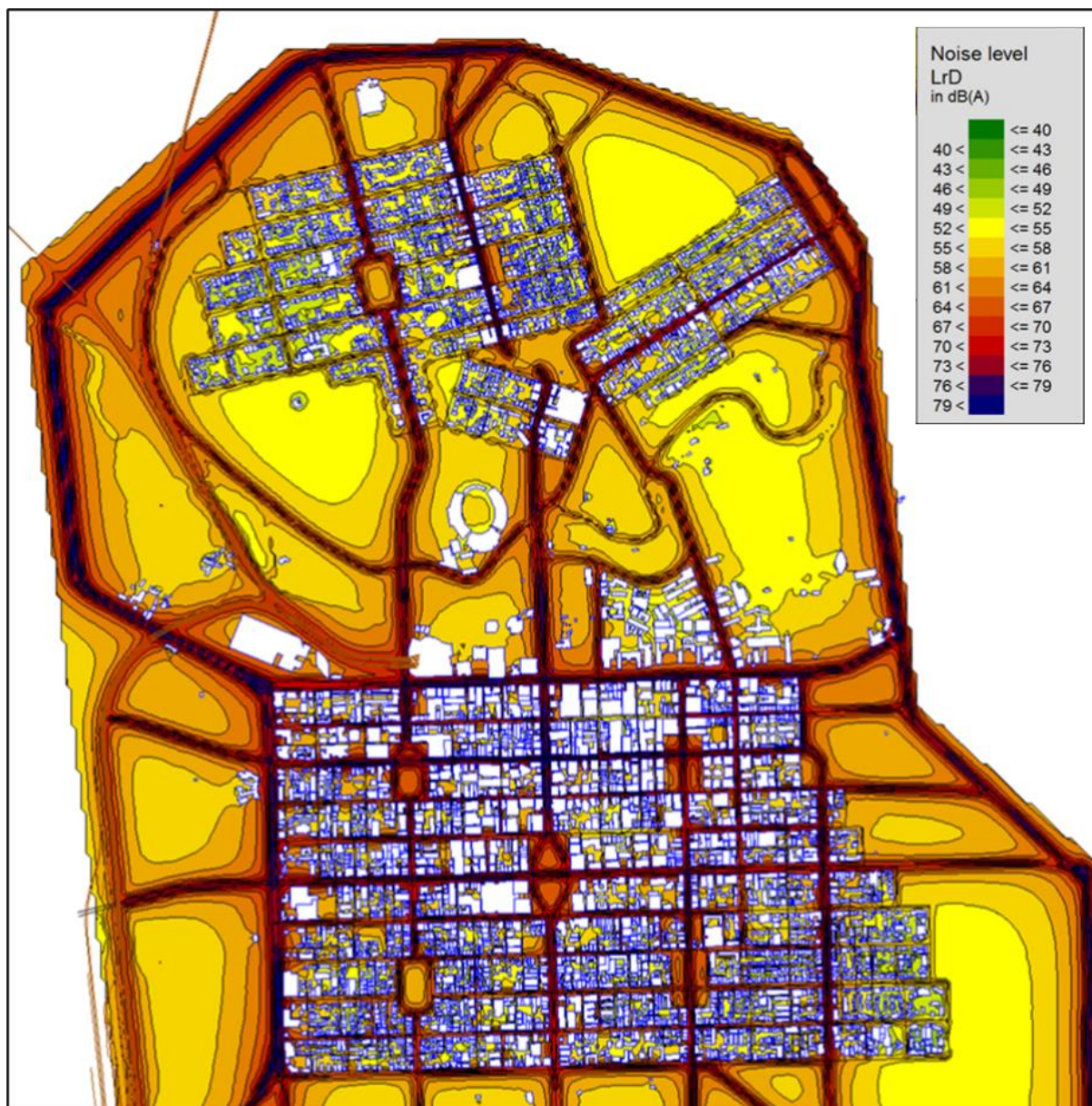


Figure 5 Day time noise levels for Adelaide CBD

Source: EPA, 2024

²¹ Lenchine, V., & Song, J. (2017). *Adelaide CBD strategic noise monitoring*. Environment Protection Authority.

Equity

Ensuring that all residents have equitable access to transport options is crucial. Many people in Adelaide do not have access to a car, cannot drive or prefer not to. High levels of driving and car dependency, and a city designed to facilitate this, exacerbates disadvantage by reducing access to places and community services. This can perpetuate greater than desirable levels of car ownership and use, which excludes people from our cities and continues a cycle of disadvantage. This includes specific sub-groups in the population, for example, families with young children, people with a disability and Indigenous Australians. Addressing this will involve understanding and meeting the transport needs of diverse populations to ensure transport policies do not disproportionately impact certain groups; ensuring the city is inclusive to people of all ages and abilities.

Vehicle access and social equity

Residents and visitor's car ownership and access to vehicles is an important component to multi modal transport, especially in the context of age, disability, gender, socio-economic situation, and transport disadvantage. There are a range of factors to consider when trying to balance restricting excessive car use against ensuring fair and equitable transport options. The City of Adelaide seeks to make car access more equitable through measures such as relaxed parking controls for holders of disability parking permits, and reduced parking permit fees where a resident is the holder of a current Pensioner Health Benefit Card or a full time Student Card. There are opportunities to improve and balance equity-based access to multi modal transport options, including cars, where appropriate. This needs to be done carefully so that policy measures do not end up further subsidising general car use leading to induced driving.

Accessible parking provision

The provision of accessible car parks is one important component for people with a disability who rely on a car for mobility. Accessible parking bays should be strategically located near intersections, mid-block crossings, and other key access points to minimise travel distances. It is recommended that clear signage, line marking, and real-time data be used to improve the visibility and compliance of these spaces. For new developments and urban areas, a structured process should be implemented, involving an assessment of current parking provisions and setting guidelines for the number of accessible spaces per defined area, street length, or development.

In Melbourne²², this process is data-driven and involves Parking Precinct Reviews, which assess existing parking needs and uses in different areas. Based on this data, accessible parking is prioritised according to a hierarchy of kerbside use. Spaces are allocated with the aim of ensuring that a network of accessible bays exists within 200 metres of all major destinations. Similarly, Hobart's Parking and Kerbside Management Plan²³ places a strong emphasis on reviewing the location, number, and accessibility of disabled parking bays to ensure that they are appropriately positioned near essential services and facilities. The plan also highlights the importance of consulting with the community to optimise accessible parking provisions. These approaches help to ensure that accessible parking provisions meet the needs of the community while balancing other demands on kerbside space.

Transport technology

Significant technological innovations in transport are transforming how cities operate, and it's important to remain proactive in shaping their implementation. Without a robust policy framework, transport innovations could inadvertently undermine the liveability and sustainability of the City of Adelaide. As electric vehicles, autonomous technologies, micromobility and other technological solutions are developed, we must consider not only the benefits but also the unintended consequences, such as increased congestion and environmental impacts if these technologies make driving more affordable or convenient.

A well-considered approach is needed to ensure that advancements in transport do not encourage excessive car use, which could result in more traffic and higher emissions. Although innovations like electric vehicles reduce tailpipe emissions, they do not solve problems related to urban sprawl, parking requirements, road congestion, or the dominance of cars in city spaces.

²² City of Melbourne. (2023). *Parking and Kerbside Management Plan*. City of Melbourne.

²³ City of Hobart. (2024). *Parking and Kerbside Management Plan*. City of Hobart.

Policies must adopt a cautious and balanced use of emerging technologies. For instance, electric vehicle charging infrastructure should not dominate streets at the expense of investment in pedestrian-friendly street design and enhanced public transport networks. Similarly, autonomous vehicle technologies should be employed in ways that complement, rather than replace, public transit. By prioritising walking, cycling, and public transport as the most convenient and attractive options, Adelaide can continue to grow as a liveable, vibrant, and sustainable city.

Speed limits

Speed limits within the City of Adelaide are mainly 50 km/h, which exceeds the internationally accepted Safe System urban default speed of 30 km/h, as endorsed by the Stockholm Declaration²⁴ and supported by Austroads²⁵. Australia's peak professional bodies, practitioners, and academics are calling on Australian Governments to adopt 30 km/h as the urban default speed limit, with strong advocacy from organisations such as the Australian Institute of Traffic Planning and Management (AITPM) and Engineers Australia (EA), as well as academic bodies through open letters and position papers. Speed management is at the core of the Safe System approach. A Safe System speed is defined as the maximum speed upon impact where the chance of death or serious injury is minimised or eliminated.

Most Australian cities have already reduced many neighbourhood and CBD speed limits to 40 km/h which has had a minimal impact on overall travel times while delivering significant safety benefits. Many Australian councils are now investigating 30km/h and numerous cities, including City of Yarra and Mildura Rural City Council have now introduced 30km/h speed limit areas.

The City of Adelaide has a role to play in managing speed limits and is undertaking a citywide speed limit review. Safer speed limits are key to achieving Safe System streets and reducing the number of people dying and being seriously injured on our streets. This is in line with our Strategic Plan and South Australia's Road Safety Strategy to 2031 targets. Safe System speeds will improve liveability and mean more people, including children²⁶, are enabled and feel comfortable to walk/wheel and cycle, and enjoy spending time on our streets.

Increasing vehicle size and mass

Australia is facing challenges similar to those in the United States²⁷ regarding the safety implications of heavier vehicles such as SUVs and pickup trucks²⁸. Larger vehicles benefit from tax incentives and regulatory loopholes, such as exemptions from stringent fuel efficiency standards. These policies favour the production and use of heavier vehicles, contributing to more dangerous road conditions. Heavier vehicles are safer for their occupants but at the expense of causing significantly more harm to other

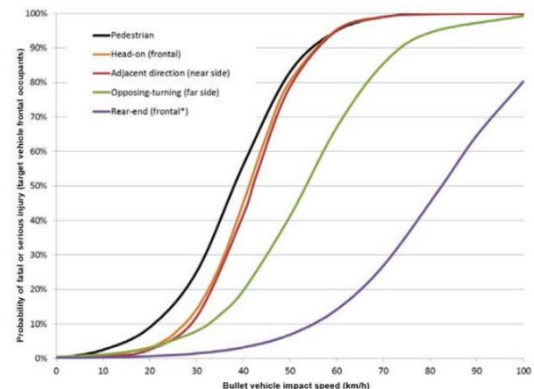


Figure 6 Fatal and serious injury risk based on impact speed for various crash types

Source: Austroads Guide to Traffic Management Part 13: Road Safety Environment



Figure 7 Current posted speed limits across the City

²⁴ Stockholm Declaration (2020). *3rd Global Ministerial Conference on Road Safety: Achieving Global Goals 2030*.

²⁵ Austroads. (2020). *Safe System Roads for Local Government*.

²⁶ Department for Infrastructure and Transport. (2020). *Walking, riding or driving to school: What influences parents' decision-making? Literature review*. Government of South Australia.

²⁷ The Economist. (2024, September 7). *America's killer cars*. The Economist.

²⁸ The Economist. (2024, September 7). *Dangerously heavy*. The Economist.

road users, particularly pedestrians and smaller vehicle occupants²⁹. The design of these vehicles, often with higher front ends, increases the risk of severe injuries in collisions³⁰.

Electric vehicles (EVs), while beneficial for reducing emissions, are often significantly heavier than their internal combustion counterparts due to the weight of their batteries, which makes them more dangerous in a crash compared to lighter vehicles²⁸. This added weight exacerbates the risk of severe injuries or fatalities for other road users, contributing to increased crash severity.

While local governments may not have the power to regulate vehicle size or weight, they play a critical role in road safety by controlling speed limits and influencing road design. Roadways can be restructured to accommodate various users safely, and lower speed limits can mitigate the risks posed by heavier vehicles. Such measures are vital in ensuring that urban areas remain safe for all road users, including those who walk or cycle. Improvements in road design, such as creating more pedestrian-friendly spaces and implementing traffic-calming measures, can also counterbalance the growing prevalence of larger vehicles.

Car parking and congestion

Car parking in Adelaide contributes to vehicle congestion, especially as drivers circulate the city streets in search of free on-street parking. This behaviour leads to increased traffic volumes, higher emissions, and exacerbates urban congestion, negatively impacting air quality and road safety. Studies³¹ have shown that cruising for parking can significantly increase traffic delays and fuel consumption, worsening congestion and emissions.

The availability of excessive car parking influences travel behaviour, encouraging more people to drive rather than use more space efficient modes of transport. This extensive supply of parking spaces also increases housing and development costs.

Parking spaces are valuable resources that influence land use and urban development. The cost of providing parking infrastructure includes land value, construction, maintenance, and opportunity costs. Effective pricing strategies can reflect these values, encouraging more efficient use of parking spaces and promoting transport choice.

Adelaide has a significantly higher availability of parking spaces compared to other Australian capital cities, with 25 spaces per 100 workers. In comparison, Sydney offers 12 spaces, Melbourne 14.2, Brisbane 16.3, Perth 21.5, and Hobart 20 per 100 workers³². The supply in Adelaide contrasts sharply with these other cities where parking is both limited and more expensive. Sydney and Melbourne have some of the highest parking fees, followed by Brisbane, Perth, and Hobart, all of which influence a higher reliance on public transport. The ample and affordable parking in Adelaide encourages greater car use, whereas the limited and expensive parking in other cities promotes the use of public transport.

Addressing these issues requires strategies like educating city parkers to plan their visits and use systems available for ease of access to on-street and off-street parking, pricing mechanisms or improved parking management systems to mitigate the environmental and traffic impacts.

Road safety

In recent years, there has been insufficient tracking and reporting on efforts to reduce fatalities and serious injuries on our streets³³. Setting specific targets and tracking progress against indicators is important to identify areas needing improvement and to allocate resources and budget accordingly. While road safety campaigns often focus on user behaviour and the Safe System approach highlights 'shared responsibility', this should not be misinterpreted as placing the blame on road users. Road authorities, as system designers, hold the greatest duty of care and are responsible for the safety levels within the transport system. Governments have the greatest responsibility to ensure the safety of people travelling on our roads, underscoring the need for clear responsibility and accountability.

²⁹ O'Neill, B., & Kyrychenko, S. Y. (2004). *Crash incompatibilities between cars and light trucks: Issues and potential countermeasures*. SAE Technical Paper Series 2004-01-1166. Society of Automotive Engineers.

³⁰ O'Neill, B., Joks, H. C., & Haddon, W. Jr. (1974). *Relationships between car size, car weight, and crash injuries in car-to-car crashes*. Proceedings of the Third International Congress on Automotive Safety.

³¹ Afrin, T., & Yodo, N. (2020). "A Survey of Road Traffic Congestion Measures towards a Sustainable and Resilient Transportation System." *Sustainability*.

³² Parkopedia (2022). "Global Parking Index 2022."

³³ Engineers Australia. "Road Safety: Policy Advice Paper." Transport Australia Society, May 2024

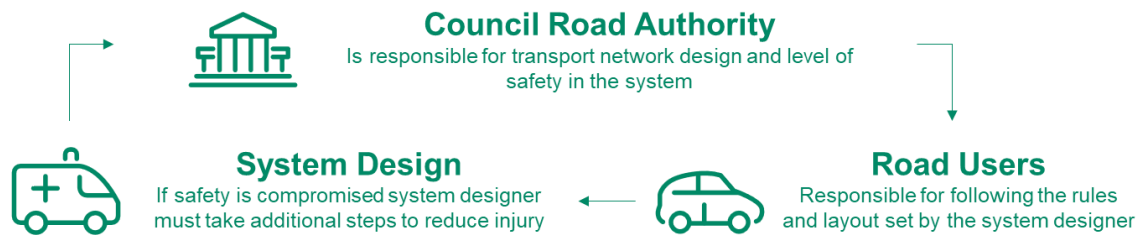


Figure 8 Shared responsibility framework for road safety³⁴

Safe System Approach

The Safe System Approach³⁵ is a holistic road safety framework aimed at reducing road deaths and serious injuries. It recognises that human errors are inevitable and seeks to ensure that such mistakes do not result in severe consequences. The core pillars of this approach include:

- **Safe Roads:** Designing roads to reduce the likelihood and severity of crashes.
- **Safe Vehicles:** Ensuring vehicles are equipped with the latest safety features to protect occupants and other road users.
- **Safe Speeds:** Implementing appropriate speed limits and enforcement to match the road conditions and minimise injury risk.
- **Safe Road Users:** Encouraging safe behaviour through education, enforcement, and infrastructure.

The Safe System approach outlines a shared responsibility among road users, policymakers, and vehicle manufacturers to create safer transport environments. This approach acknowledges that while crashes may happen, the transport system can be designed to prevent fatal outcomes.

Accessible car parks

Accessible parking is very important in meeting the needs of people living with a disability. It contributes to ensuring people can access goods, services and the experiences of the city. Community members can have unique parking needs including:

- Safe, accessible and readily available spaces close to their destination
- Parking controls such as time limits that are fair and inclusive to accommodate diverse needs.

It is important to note that there are legislated requirements for access in the Disability Discrimination Act, however sometimes when these are not physically able to be accommodated due to engineering constraints, sometimes a non-compliant parking space is provided in lieu of not providing one at all. This is done in consultation with the user community.

Motorcycles and scooters

Motorcycles and scooters serve an important transport function for some people in Adelaide, supporting single-user trips and last mile deliveries. They are more space efficient than private cars when moving and parked. There are things that can be done to improve safety for people riding motorcycles:

- Ensuring that road surfaces are well-maintained, free of debris, and that hazards such as uneven surfaces are addressed is essential.
- Improving visibility by managing visual clutter and obstructions and installing clear signage can significantly reduce risks for motorcyclists, particularly where sightlines may be obstructed.³⁶

In future, development of electric motorcycles and scooters will address noise concerns which is a key amenity impact of petrol vehicles. Electric charging infrastructure will need to be considered as new vehicles arrive in Australia.

³⁴ Government of South Australia. (n.d.). *The safe system approach*. Think! Road Safety. Retrieved June, 2024

³⁵ Austroads. (2018). *Guide to road safety part 2: Safe system approach*. Austroads.

³⁶ Victoria State Government. (2024). *Making roads motorcycle friendly: A guide for road design, construction, and maintenance*.

What are other cities doing?

Other cities around the world are adopting innovative policies to manage motor vehicles and parking to address urban congestion, environmental concerns, and improve quality of life. Cities are considering on-street and off-street parking as part of the total supply, appropriately recognising the value of car parking, and increasing the availability of car parking instead of increasing supply.

Melbourne, Australia

In some newer Australian car-free developments, such as Nightingale Housing projects in Melbourne³⁷, new residents are required to certify that they do not own a car and agree not to use on-street parking spaces. These developments focus on sustainable living, with excellent access to public transport and cycling infrastructure, encouraging residents to adopt car-free lifestyles. This approach is part of a broader trend in cities aimed at reducing car dependency and promoting sustainable urban transport options.

Tokyo, Japan

Tokyo requires proof of a parking space before a person can purchase a car, effectively limiting the number of vehicles that can be owned in the city. This policy ensures that the vehicle population does not exceed the available parking infrastructure, helping to manage congestion and promote more efficient use of space. In some newer Australian car-free developments. New residents are required to certify that they do not own a car and will not occupy on street car parking spaces.



Figure 9 Example of a "shako shomei" permit

Source: Paul Barter via Reinventing Parking

Portland, USA,

Portland is exploring various road pricing schemes aimed at reducing traffic congestion and improving air quality³⁸. The city's Pricing for Equitable Mobility Community Task Force is considering measures such as parking pricing, area and time-based fees, fleet charges, road user charges, cordon pricing, and freeway pricing³⁹. These initiatives are expected to alter traffic patterns, encourage the use of sustainable transport options, and free up public space. Similar approaches have been adopted in other cities⁴⁰ and have proven effective in reducing congestion and emissions.

Sydney, Australia

The City of Sydney has implemented a differential residential parking permit fee structure based on vehicle emissions to encourage the use of greener vehicles⁴¹. This scheme divides vehicles into categories based on their CO2 emissions, with lower emissions vehicles paying less for their permits. For instance, vehicles emitting less CO2 per kilometre pay lower fees than those with higher emissions, which are subject to higher charges. The scaled annual permit fees are based on the star rating of the vehicle in the federal government's green vehicle guide. This approach aims to reduce the environmental impact of vehicle use to demonstrate environmental leadership and to address climate change by encouraging residents to choose more sustainable transportation options.

Amsterdam, Netherlands

Amsterdam has drastically reduced the number of on-street parking spaces and increased parking fees to discourage car use. The city has also invested in cycling infrastructure and public transport, making these modes more attractive than driving. Amsterdam's policies have led to a significant reduction in car use and an increase in cycling and public transport use.

Ghent, Belgium

Ghent's Traffic Circulation Plan divides the city into six sectors, including the city centre, to

³⁷ The Fifth Estate. (2015, June 4). *No car parking: The hot new trend*. The Fifth Estate.

³⁸ Planetizen. (2019, October 21). *Portland ready to experiment with new forms of road pricing*. Planetizen. <https://www.planetizen.com/news/2019/10/106797-portland-ready-experiment-new-forms-road-pricing>

³⁹ World Economic Forum. "How Road Pricing is Tackling Congestion and Pollution in Cities." 21 December 2021

⁴⁰ World Economic Forum. (2021, December 2). *How road pricing is tackling congestion and pollution in cities*. World Economic Forum.

<https://www.weforum.org/agenda/2021/12/how-road-pricing-is-tackling-congestion-and-pollution-in-cities/>

⁴¹ City of Sydney. (n.d.). *How to apply for a residential parking permit*. City of Sydney. <https://www.cityofsydney.nsw.gov.au>

restrict motorised vehicles from crossing between them, thereby directing through traffic to the inner ring road. Several streets have been closed to motorised traffic, with changes to travel directions in 77 streets, allowing only vehicles with special permits, such as emergency services, public transport, and taxis, in restricted areas. The plan also creates extensive pedestrian zones and significantly expands cycling infrastructure, including dedicated bike lanes and secure bike parking. Additionally, it promotes the use of public transport by prioritising buses and trams in the city centre.⁴²

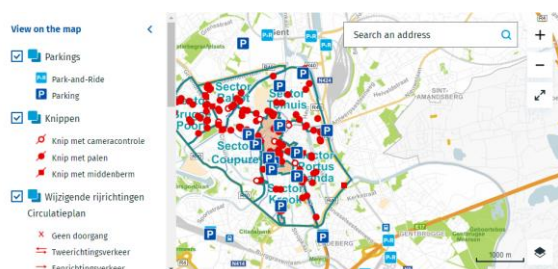


Figure 10 Interactive digital map of the circulation plan

Source: City of Ghent

Madrid, Spain

Madrid has implemented a Low Emission Zone (LEZ) as part of its Madrid 360 strategy to reduce pollution and improve air quality⁴³. The zone restricts access to older, more polluting vehicles without environmental labels, specifically targeting vehicles classified as category A, which include many older gasoline and diesel cars. These restrictions have been phased in gradually, with significant milestones in 2022 and 2023, and further tightening expected in 2024. The initiative aims to decrease traffic-related emissions by encouraging the use of cleaner vehicles and public transport, thereby creating a healthier urban environment for residents and visitors.



Figure 11 Low Emission Zone in Madrid, Spain 2023

Source: AECOM

Zurich, Switzerland

Zurich has implemented a cap on parking supply to reduce car use and improve public transport efficiency. New off-street parking spaces are only allowed if an equivalent amount of on-street parking is removed. This helps to reduce congestion and promote the use of public transport.

Copenhagen, Denmark

Copenhagen prioritises cycling and public transport over car use. The city has extensive cycling infrastructure and has implemented policies to discourage car use in the city centre, such as reducing parking availability and increasing parking fees. This has made Copenhagen one of the most bike-friendly cities in the world, significantly reducing traffic congestion and pollution.

San Francisco, USA

San Francisco has introduced dynamic parking pricing through its SF Park program. This system adjusts parking prices based on demand, ensuring that one or two spaces are always available on each block. The approach helps reduce the time drivers spend searching for parking; lowering congestion and emissions.



Figure 12 San Francisco Smart Parking meter

Source: SFTMA

London, UK

London implemented a congestion charge zone in 2003, where drivers must pay a fee to enter the city centre during peak hours. This policy has successfully reduced traffic congestion, improved air quality, and generated revenue that is reinvested into the city's public transport system.

London has also adopted the Healthy Streets approach in the Mayor's Transport Strategy.

⁴² European Commission. "Gent's Traffic Circulation Plan (Belgium)." EU Urban Mobility Observatory, 19 Oct. 2017

⁴³ Comunidad de Madrid. (n.d.). Zonas de Bajas Emisiones (ZBE). June 2024

This aims to improve urban health and well-being by encouraging walking, cycling, and public transport use, thus enhancing air quality, reducing congestion, and making communities greener and more liveable. It employs ten indicators to ensure streets are accessible, safe, and enjoyable for everyone, integrating green infrastructure to boost air quality and mitigate urban heat effects. Community engagement ensures the initiative reflects the needs of its users, fostering a sense of ownership and pride in local areas to create vibrant, inclusive, and healthier urban environments.

Car-free days

Car-free days are events where designated streets or entire city areas are closed to motor vehicles, allowing people to use the space for walking, cycling, and other forms of active transport⁴⁴. Cities such as Paris, Bogotá, and Brussels regularly implement car-free days as part of efforts to reduce pollution, promote sustainability, and raise awareness about active and public transportation methods. Paris, for example, holds an annual car-free day across the city centre, significantly reducing air pollution and noise levels, while Bogotá is renowned for its "Ciclovía" event, during which over 120 kilometres of roads are closed to cars every Sunday. These events provide numerous benefits, including reduced carbon emissions, improved public health through increased physical activity, and enhanced community interaction as people enjoy streets free from cars. Studies^{45,46,47} have also shown that such events can positively influence long-term attitudes toward active and public transport.

Opportunities

How can Adelaide benefit?

Adelaide's vehicle and parking policies can evolve to address the growing challenges of traffic congestion, environmental impact, and a frustrating user experience. By exploring new approaches, Adelaide can reduce car dependency, and improve liveability. Learning from global best practices, will be fundamental to develop a transport system that meets the needs of all residents and supports Adelaide's growth and development.

It is essential to create a narrative that frames changes in a positive, community-oriented light. Values-based messaging⁴⁸ suggests that focusing on shared community values, such as freedom, access, and equity, can help build support for walking, cycling, and other more efficient transport measures. Rather than framing parking changes as a loss, it is more effective to frame it as opening up opportunities for more accessible and enjoyable streets that benefit everyone. This can shift the conversation from an individualistic mindset such as parking spaces to a collective one such as shared streets.

Building a strong narrative also requires positioning transport changes as beneficial to businesses, not just neutral or harmful. Research from various transport studies^{5,9} shows that street changes, such as reallocating car spaces for protected cycle lanes or wider footpaths can enhance business outcomes by attracting foot traffic, which often translates into increased sales. The Committee for Adelaide⁷ further supports this, suggesting that cities with more pedestrian-friendly environments have more vibrant local economies. It is vital to include this kind of evidence in the discussion to assure businesses that these changes can lead to economic benefits.

Another important consideration is addressing trip feasibility and correcting the perception that driving is the only viable option, particularly in Adelaide, where driving is often viewed as a necessity. Studies on transport economics highlight that many trips, particularly within city centres, are short and could easily be done by walking, cycling, or using public transport. It is important to make the case that many transport modes are not only feasible but often more efficient for short distances, countering misconceptions that cars are always the fastest or most convenient option.

A robust decision-making process is needed to prevent indecision and over-consultation from derailing funded and committed projects. This requires creating clear, evidence-based narratives that align with broader economic and community objectives, including research on the economic benefits of more sustainable transport systems. Decision-makers should be guided by a transparent framework that weighs the long-term community benefits against short-term resistance. It is important to engage the

⁴⁴ European Commission. (2020). *Car-free days: A breath of fresh air*.

⁴⁵ Torres, A., Sarmiento, O. L., Stauber, C., & Zarama, R. (2013). The Ciclovía-Recreativa: A mass-recreational program with public health potential. *Journal of Urban Health*, 90(5), 797–811.

⁴⁶ Airparif. (2016). *Impact of car-free day on air quality in Paris*.

⁴⁷ Brussels Environment. (2018). *Car-Free Sunday 2018 – The environmental impact*.

⁴⁸ Glenn, E. (2021). *Framing walking and bike riding: Message guide*. VicHealth.

majority by showing them a vision of what is possible and how these changes align with their values and daily lives.

It is important not to use loss-oriented language, which can provoke a defensive reaction, and instead focus on positive outcomes. For example, rather than discussing the reduction of parking spaces, talk about how these changes will open up streets for everyone, making them more accessible and vibrant for pedestrians and cyclists alike. Safety, community, and environmental benefits that come with reconfigured streets will ensure that changes highlight what people gain rather than what they lose.

By combining a values-driven narrative with evidence on the economic and social benefits of sustainable transport, it is possible to build broader support and ensure that proposed projects in the Integrated Transport Strategy succeed with broad public support. The key lies in consistently framing the conversation around shared benefits, equity, and a positive vision for Adelaide's future.

Demonstrations, trials and pilots

Demonstration projects, trials, or pilots are invaluable tools for testing and showcasing the benefits of proposed city changes without committing to large-scale, permanent transformations. These small-scale implementations allow cities to experiment with changes such as new cycling lanes, pedestrian zones, or modified traffic flows, providing real-world data on their effectiveness. Importantly, these projects help to build public and political support by offering tangible evidence of improvements in mobility, safety, or environmental quality, while also addressing concerns before scaling up. This approach is crucial for the successful implementation of any proposed city initiative, as it allows for adjustments based on feedback and ensures that long-term investments are informed by proven results.

Carshare

Carshare is a service where private motor vehicles are made available for rental, usually on a short-term basis (up to several days). Carshare differs from traditional car rental in that hourly rentals are available, vehicles are geographically dispersed, and renters have

access to their vehicle without completing paperwork or interacting with a human being.

Carshare services typically operate over a defined area which can be a business district, a university campus or any area with higher residential densities and/or high volumes of commuter users. Carshare can be particularly effective to help reduce traffic congestion and transportation costs for participants while contributing to environmental sustainability as the number of individual vehicles on the road network is reduced.



Figure 13 Parking spaces for car share vehicles

Source: GoGet Australia

Carsharing schemes present the opportunity to reduce overall levels of car ownership and driving by providing convenient access to vehicles without the need for personal ownership. This can lower the total number of cars on the road and encourage the use of more efficient transport modes. Studies have shown that each shared car can replace up to ten private cars, leading to decreased congestion, reduced parking demand, and lower environmental impacts.⁴⁹

The role for the City of Adelaide in car sharing is to provide the space and regulatory framework around where cars are parked and made available to users and if a fee applies. This can include providing parking spaces, zones, adjusting regulations or issuing permits as well as integrating car sharing into travel behaviour change programs.

Performance based fees

Emissions-based parking fees, road charging, and similar approaches help address air pollution and safety risks. Examples from other cities include London's Ultra Low Emission Zone, Stockholm's congestion tax, and Madrid's Low Emission Zones, which aim to

⁴⁹ Jain, T., et al. (2020). Changes in private car ownership associated with car sharing: Gauging differences by residential location and car share typology. Transportation.

mitigate environmental and traffic impacts through similar measures.

There is potential to apply differential pricing or access prioritisation according to a range of metrics such as emissions, vehicle size or safety ratings to achieve different public policy objectives. Some of these mechanisms do fall within the remit of the City of Adelaide to implement, such as variable resident permit prices. For example, the City of Sydney's resident parking permit fees vary based on the vehicle's emissions as outlined in the Australia Government Green Vehicle Guide. Standard permits have a set price, while permits for lower-emission vehicles are less expensive. Conversely, higher-emission vehicles incur higher fees. The second permit is slightly more expensive than the first.

Electric car and vehicle charging infrastructure

The City of Adelaide has endorsed a roadmap to accelerate the shift to electric vehicles (EV) in the CBD and North Adelaide.⁵⁰

The plan supports the increasing adoption of electric vehicles by establishing a comprehensive EV charging network. It emphasises the need for both on-street and off-street charging solutions due to the high density of residents and jobs in the city, many of whom live in apartments without private charging options. The roadmap includes strategic recommendations for the city's role in facilitating the deployment of EV charging infrastructure, focusing on public-private partnerships and prioritising key locations for chargers to meet the growing demand.

EV typically refers to an electric private car, but it also includes buses, trucks, trams, vans, bicycles, and scooters. Public charging facilities are mainly intended for private cars, while other EV types are expected to charge privately or via their operators. Expanding the use of non-private car electric vehicles will require additional public support to develop necessary infrastructure and charging opportunities.

Traffic circulation plan

A traffic circulation plan is a strategic framework to manage traffic flow within a city. It primarily aims to reduce through traffic in central areas whilst preserving accessibility to enhance urban liveability. These plans typically divide the city into sectors to control traffic flow, encouraging the use of peripheral routes or ring

roads. Traffic circulation plans promote walking, people cycling, and public transport by expanding pedestrian zones, creating dedicated bike lanes, and enhancing public transport infrastructure. Limiting car traffic in central areas creates safer, more accessible spaces for pedestrians and people cycling, reducing congestion and pollution. This approach supports vibrant, liveable cities with better access to services and amenities, improving residents' quality of life.

Modal filters

Modal filters are any urban design or traffic management intervention that restricts access to one type of vehicle while allowing access for others. Generally, they are used to prevent through traffic for motor vehicles while maintaining access for pedestrians and bicycles⁵¹. Modal filters can be as large as a city block or as small as a garden bed. They may also be part time or permanently installed depending on the implementation. Modal filters can be used to shape urban mobility by restricting motor vehicle access while promoting walking and cycling. Examples of effective modal filters include the creation of low-traffic neighbourhoods, which use barriers such as bollards, planters, or gates to prevent through traffic while allowing bicycles and pedestrians to pass. Another example is the use of selective vehicle restrictions, such as closures of certain streets to motor vehicles, while still allowing access for public transport, emergency services, and residents. These interventions can contribute to enhancing the safety and attractiveness of active transport.



⁵⁰ City of Adelaide. "Electric Vehicles Charging Infrastructure Transition Roadmap." 2020

⁵¹ Streets Alive Yarra. (n.d.). *Modal filters*. Retrieved June 2024, from <https://streets-alive-yarra.org/modal-filters/>



Figure 14 Modal filters in Melbourne

Source: Streets Alive Yarra

Car parking policy in the planning and design code

The City of Adelaide faces car parking challenges that vary with proximity to the CBD, influenced by residential and localised retail areas. Current car parking policies reflect high access to diverse transportation modes, with public feedback showing both support for reduced car dependency and concerns over parking availability in the Capital City Zone. These policies should be integrated within a broader strategic transportation plan and regional coordination to enhance effective transportation options, including active transport. A comprehensive design guideline could assist in addressing off-street car parking for residential flat buildings, promoting accessibility scooter parking, bicycle parking, car stacking devices, and infrastructure for active transport, aiding in the transition to a climate-ready future.

Key Strategic Moves

Key strategic moves for the City of Adelaide to implement to support sustainable future growth of the city include adopting the Healthy Streets approach, implementing innovative policies like dynamic parking pricing and considering a shift towards road pricing, expanding electric vehicle charging infrastructure, creating low emission zones, and investing in extensive cycling and pedestrian infrastructure.

Despite objectives to increase the number of people walking, wheeling, and cycling, transport data shows that mode shift has not been occurring as desired.

To increase levels of walking, wheeling and cycling and public transport use, in line with strategic objectives of the City of Adelaide and other levels of government, it is vital to consider both stronger incentives related to those modes, and disincentives for car use. Governments globally have implemented or

started to consider measures such as car parking management and road use pricing.

Consider the environmental impact of transport

The City of Adelaide must prioritise reducing car dependency to achieve its strategic objectives. Adelaide can enhance local businesses, attract more visitors, and improve the overall quality of life, ultimately fostering a vibrant, thriving liveable city in the future.

Considering the environmental impact of transport modes and prioritising low-emission transport can be achieved by expanding electric vehicle charging infrastructure, creating low emission zones, and investing in connected cycling and pedestrian networks.

Strategic parking and traffic circulation

Additionally, strategic moves should address better parking management and permits, developing a comprehensive traffic circulation plan, implementing modal filters, reducing speed limits, and enhancing road safety measures. These strategies will help create a more liveable city where people enjoy places and have better transport choices.

The City of Adelaide can be more strategic about how we manage our parking and traffic circulation through dynamic parking pricing, parking management and permits. This could include developing a comprehensive traffic circulation plan, implementing modal filters, reducing speed limits, and enhancing road safety measures.

Healthy Streets

Optimising the road space of our streets to create appealing corridors for movement, rest, and to improve safety for all users is central to the Healthy Streets approach. This comprehensive human-centred framework, developed to improve urban health and well-being, makes streets more accessible, safe, and enjoyable for everyone. Prioritising walking, wheeling, cycling, and public transport over car use, the Healthy Streets approach aims to reduce air pollution, enhance air quality, and foster greener, more liveable communities. This can transform streets into vibrant, inclusive places that encourage physical activity and social connection.

The City of Adelaide can draw on the Healthy Streets principles to reimagine road spaces as multi-functional corridors that cater to all users, creating efficient pathways for transport and spaces where people can pause, interact, and enjoy their surroundings. Streets designed with these principles will contribute to a healthier,

safer, and more attractive urban environment, supporting the city's objectives of increasing the number of people walking, wheeling, and cycling.

Integrating green infrastructure, engaging with the community, and implementing innovative safety measures can foster an inclusive urban environment in the City of Adelaide that promotes well-being, enhances transport choices, and creates a more liveable future.

Making streets cleaner, safer, and more pleasant can attract more visitors, enhance the local economy, and achieve the broader strategic goals of reducing car dependency and promoting active transport modes, ensuring Adelaide remains a vibrant and thriving city.

Conclusion

As Adelaide grows, we must balance the needs of residents, businesses, visitors, workers and students. The following strategic moves have been identified based on the issues, barriers and opportunities identified in this paper and what we've heard from the community through previous engagements.

Reducing car dependency will help to achieve our strategic objectives and enhance local businesses, attract more visitors, and improve the overall quality of life, ultimately fostering a vibrant, thriving liveable city in the future.

Basing our Integrated Transport Strategy around these strategic moves will support the city in creating a multi-modal transport network where each person has greater choice in how they move; creating a safe environment for all, and expanding the number of safe travel options for people of all ages and abilities.

The following three key strategic moves have been identified based on the objectives for our city:

- Considering the environmental impact of transport modes and prioritising low-emission transport, by expanding electric vehicle charging infrastructure, creating low emission zones, and investing in connected cycling and pedestrian networks.
- Being strategic about how we manage our parking and traffic circulation through dynamic parking pricing, parking management and permits, developing a comprehensive traffic circulation plan, implementing modal filters, reducing speed limits, and enhancing road safety measures.

- Optimising the road space of our streets to create appealing corridors for movement, rest, and to improve safety for all users using Healthy Streets principles.