15 Ground Transport Plan

15.1 Introduction

Ground transport planning is critical to the efficient operation of Perth Airport and its future growth.

The journey to and from Perth Airport often creates the first and last impression for people visiting Western Australia. The development and implementation of the ground transport plan is based on a core principle of seeking to provide multiple options and streamline the efficiency and customer experience for people coming to and going from the airport. This is achieved through integrated planning and adopting a collaborative approach with State and local governments to ensure that the road, rail, shared path and public transport networks are developed and operated to provide a suitable level of service.

The ground transport plan is focused on the developments which will occur in the next five-year period as well as considering the future requirements over the 20-year planning horizon of Master Plan 2026.

15.2 Planning Approach

Planning is an ongoing and essential requirement to meet the current and future demand for ground transport services at Perth Airport. The key factors informing the ground transport plan and access to Perth Airport are:

- the modes of transport used and how they will change over time
- meeting the demands of forecast passenger growth
- the consolidation of all commercial air services into the Airport Central precinct
- changes in land use
- the anticipated level of commercial development and associated employment on the airport estate
- the growth in traffic on the roads surrounding Perth Airport generated by activities unrelated to Perth Airport
- continuing to reduce the convergence of passenger and freight vehicle traffic
- integration of the airport's ground transport network into the wider local and state-wide networks, and
- providing a safe, secure and sustainable ground transport network.

15.2.1 Stakeholder Engagement

The ground transport initiatives described in this ground transport plan reflect the regular and ongoing collaboration between Perth Airport and key stakeholders that include:

- the Department of Transport and Major Infrastructure, which sets policy and strategic direction for transport and major infrastructure throughout Western Australia
- the Department of Planning, Lands and Heritage, which develops planning policies related to land use and the transport network in Western Australia
- the Public Transport Authority (PTA), which manages and operates public transport within Perth and the regions
- METRONET, which is made up of key government agencies including the Department of Transport and Major Infrastructure, PTA, the Department of Planning, Lands and Heritage, the Department of Communities, LandCorp, and the Metropolitan Redevelopment Authority
- Main Roads Western Australia (Main Roads), which is responsible for planning, construction and management of the major State roads to the airport
- Local governments, which are responsible for the planning, construction and management of local and regional roads adjacent to and connecting to Perth Airport, and
- the Federal Minister for Infrastructure, who is responsible for the approval of the ground transport plan as part of this Master Plan 2026, as well as the approval of any subsequent major development plan required prior to the construction of ground transport network projects.

Perth Airport works with the planning authorities to ensure that the changing demands of airport operations are reflected in strategic multi-modal transport modelling and planning. Perth Airport also ensures that developments within the airport estate consider the surrounding State and local infrastructure capacity. This engagement will continue to ensure both the internal and external ground transport networks sufficiently cater to meet demand.

15.2.2 State Planning

The Western Australian Government is both the regulator and operator of public transport services, including bus and rail for the Perth metropolitan area, including that servicing Perth Airport. It is also the regulator for taxi, rideshare and other commercial vehicle operations which service Perth Airport, in addition to its role setting the policy framework to determine mode share targets for the Perth metropolitan transport network.

Perth Airport is committed to working with State and local governments in achieving targets for sustainable transport options and mode share. Perth Airport will undertake this collaboration through coordination of projects located at the airport estate boundary, and beyond, where appropriate.

State and local governments are responsible for the road network that surrounds and provides access to Perth Airport. Figure 15-1 shows the location of Perth Airport in the context of metropolitan transport.

The ground transport plan considers and incorporates the key State Government land use and transport strategies which directly impact Perth Airport.

15.2.2.1 Perth and Peel @ 3.5million — The Transport Network

Perth and Peel @ 3.5million—The Transport Network (2018) was prepared by the then Department of Transport with the intent of guiding the long-term planning of transport infrastructure for the Perth metropolitan region. The Transport Network provides a framework to develop an efficient transport network catering for Perth's population as it approaches 3.5 million people and beyond, including the Forrestfield-Airport rail link and Airport Central rail station which opened in October 2022.

This Master Plan 2026 is consistent with the intent of the Transport Network framework through the provision of capacity to support the ongoing growth of Perth's population and subsequent required transport infrastructure.

15.2.2.2 State Planning Policy 5.4 Road and Rail Noise

The State Planning Policy 5.4 Road and Rail Noise (2019) (SPP 5.4) identifies primary freight roads and rail routes within the Perth metropolitan area, with the objective of ensuring that the community is protected from unreasonable levels of transport noise while also ensuring the future operations of strategic and important freight and traffic routes.

Based on the transport corridor classifications in SPP 5.4, Tonkin Highway, Great Eastern Highway, Roe Highway and Leach Highway are strategic freight and major traffic routes within the State's network.

Perth Airport is committed to working with State and local governments in achieving targets for sustainable transport options and mode share.

15.2.2.3 WA Active Travel Strategy

The State Government (through the Department of Transport and Major Infrastructure) is currently drafting an Active Travel Strategy to outline a coordinated, consistent approach to increase active travel in Western Australia.

The strategy will be an overarching strategic document that articulates a shared and accepted vision for the future of active travel and provides clear direction on the action required to implement the vision. While walking and bike riding are the most common modes, the strategy will also consider wheelchair and scooter use, skating, running, and use of other assisted devices such as an e-bike.

Whilst the strategy is still to be endorsed, the long-term cycle network (LTCN) for Perth and Peel is an available State planning document that identifies an aspirational blueprint for a cycling infrastructure network in Western Australia.

15.2.2.4 Westport

Westport is the State Government's planning program to move container trade activity from Fremantle to Kwinana. This includes planning new port facilities, a connected road and rail freight system, and logistics operations. The planning acknowledges that Western Australia's trade gateways to the world are its seaports and airports, making them critical pieces of economic infrastructure.

Westport is currently developing a business case that the State Government will use to decide on how, and if, to progress the project.

Westport's Landside Logistics Opportunities Study shortlisted landside supply chain network options. These options utilise existing freight rail lines as well as potential new spur lines (which branch off existing rail lines), with potential future rail to the Airport North precinct identified for each of the options being considered.

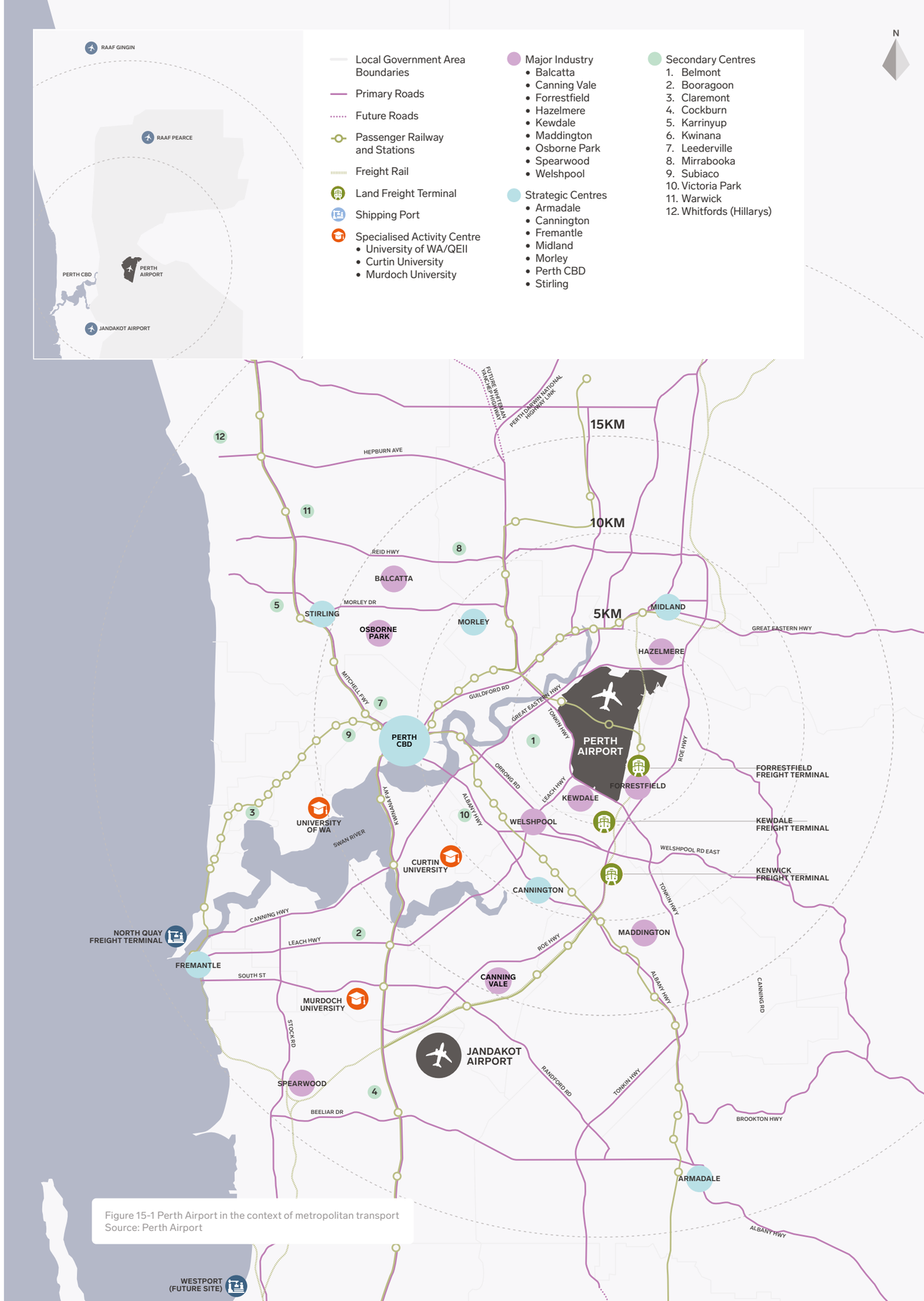


Figure 15-1 Perth Airport in the context of metropolitan transport
Source: Perth Airport

15.3 Current Road Network

Perth Airport is well served by the metropolitan road network, connecting the airport with the Perth CBD and the major metropolitan areas.

In addition to Perth Airport funded projects within the estate, both the State and Federal governments have contributed significantly to fund infrastructure supporting the current growth and transformation of Perth Airport.

15.3.1 Access to Perth Airport

The current road access for Perth Airport is shown in Figure 15-2.

15.3.1.1 Airport Central Precinct

The proximity of Perth Airport to the CBD enables good off-peak access via the arterial road network. During morning and evening peak periods, the road network surrounding Perth Airport carries significant volumes of (non-airport) commuter traffic. The peak periods for passengers using the Perth Airport passenger terminals currently differs from the traditional metropolitan commuter peak periods, reducing the impact of the airport traffic on the surrounding road network capacity at peak times.

As shown in Figure 15-2, the main access to the passenger terminals within the Airport Central precinct is through the grade separated Tonkin Highway, Leach Highway and Airport Drive interchanges, delivered as part of Gateway WA.

The $1 billion Gateway WA project was jointly funded by the Federal and State governments and included upgrades of Tonkin Highway, Leach Highway, Roe Highway, and interchange connections to Airport Drive. In addition to significantly improving access to Perth Airport, Gateway WA also improved the safety and efficiency of one of the State's most important freight transport corridors.

Airport Drive is the designated primary access to Airport Central and all road signs direct traffic for T1 and T2 onto this route. It has been designed, and land safeguarded, to allow future widening to respond to increases in vehicular volumes. The secondary access point into the Airport Central precinct is via the Tonkin Highway, Horrie Miller Drive and Kewdale Road interchange. Traffic for T1 and T2 is not directed through this location as it is intended primarily for commercial and freight vehicle access.

Traffic between the Perth CBD and the airport is directed onto the Great Eastern and Tonkin Highways, while traffic from the east on the primary road network is directed to use the Roe, Reid and Tonkin Highways.

Grogan Road is predominantly used by non-airport related traffic as a through route to access the primary road network south and west of the Perth Airport estate (Tonkin Highway, Great Eastern Highway, Great Eastern Highway Bypass and Roe Highway) and by local tenants within the Airport Central and Airport South precincts.

15.3.1.2 Airport West Precinct

Dunreath Drive currently provides access to T3 and T4 via Tonkin Highway.

The $330 million Tonkin Gap Project, jointly funded by the Federal and State governments, was undertaken between 2021 and 2023. The project delivered widening of Tonkin Highway and a new shared path between Dunreath Drive and Collier Road (to the north), and new interchanges and bridges.

Dunreath Drive will continue to be the main access to the Airport West precinct after the relocation of Qantas operations to the Airport Central precinct, with Second Street (Stanton Road) and Fauntleroy Avenue continuing to provide secondary access.

Access to the General Aviation Area (GA Area) is provided via Fauntleroy Avenue, from Great Eastern Highway.

15.3.1.3 Restricted Vehicle Access

The primary road network within and surrounding the estate also forms part of the metropolitan freight network for Restricted Access Vehicles (RAV). There is RAV 4 (27.5 metre B-Double, comprising a towing vehicle and two semitrailers), RAV 6 (36.5 metre double road train 87.5 tonnes) routes on the estate and RAV 7 (36.5 metre double road train 107.5 tonnes) on Tonkin Highway and Abernethy Road providing heavy vehicle access to the estate. There is a turning restriction at the intersection of Abernethy Road and Grogan Road for all RAV vehicles, with right turns not permitted either from Abernethy Road into Grogan Road or from Grogan Road into Abernethy Road.

$330M

The $330 million Tonkin Gap Project, jointly funded by the Federal and State governments, was undertaken between 2021 and 2023.

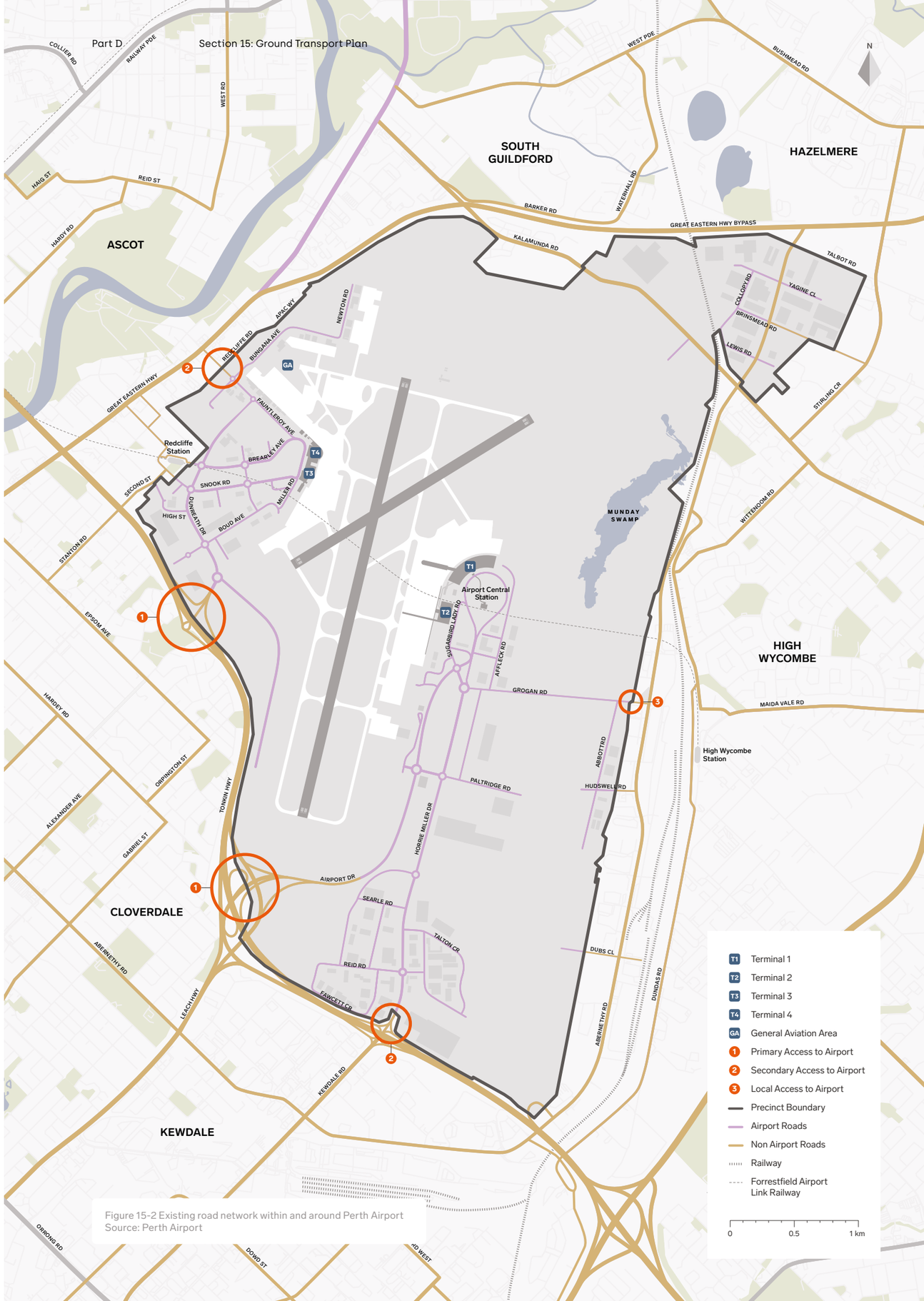


Figure 15-2 Existing road network within and around Perth Airport
Source: Perth Airport

15.3.2 Road Network Hierarchy

The road network in Western Australia is categorised by a functional hierarchy that represents the role that a road is intended to perform. The hierarchy is determined by a range of criteria, including location, degree of connectivity, predominant road use, indicative traffic volume, and recommended operating speed.

The Primary Distributor roads surrounding the airport are managed by Main Roads WA. Lower-order roads (Distributor A, Distributor B, Local Distributor and Access Roads) feeding into the primary road network are managed by the three local government authorities (Belmont, Swan and Kalamunda) that adjoin the estate. The road hierarchy relevant to Perth Airport includes:

- Primary Distributor—Tonkin Highway, Leach Highway, Great Eastern Highway, Great Eastern Highway Bypass and Roe Highway, which provide for major traffic movement and carry large volumes of generally fast-moving traffic
- Distributor A—urban area roads in built up areas that carry traffic between industrial, commercial and residential areas and generally connect to Primary Distributor roads
- Distributor B—similar to Distributor A roads, but with reduced capacity due to flow restrictions (often older roads with a traffic demand in excess of that originally intended)
- Local Distributor—roads that link Distributor A and B roads to Access Roads, and
- Access Roads—provide access to properties with amenity, safety and aesthetic aspects having priority over the vehicle movement function.

Figure 15-3 shows the current road hierarchy network surrounding the airport estate.

The road network hierarchy is based on connectivity, traffic volume, speed, and managed by Main Roads WA and local governments.

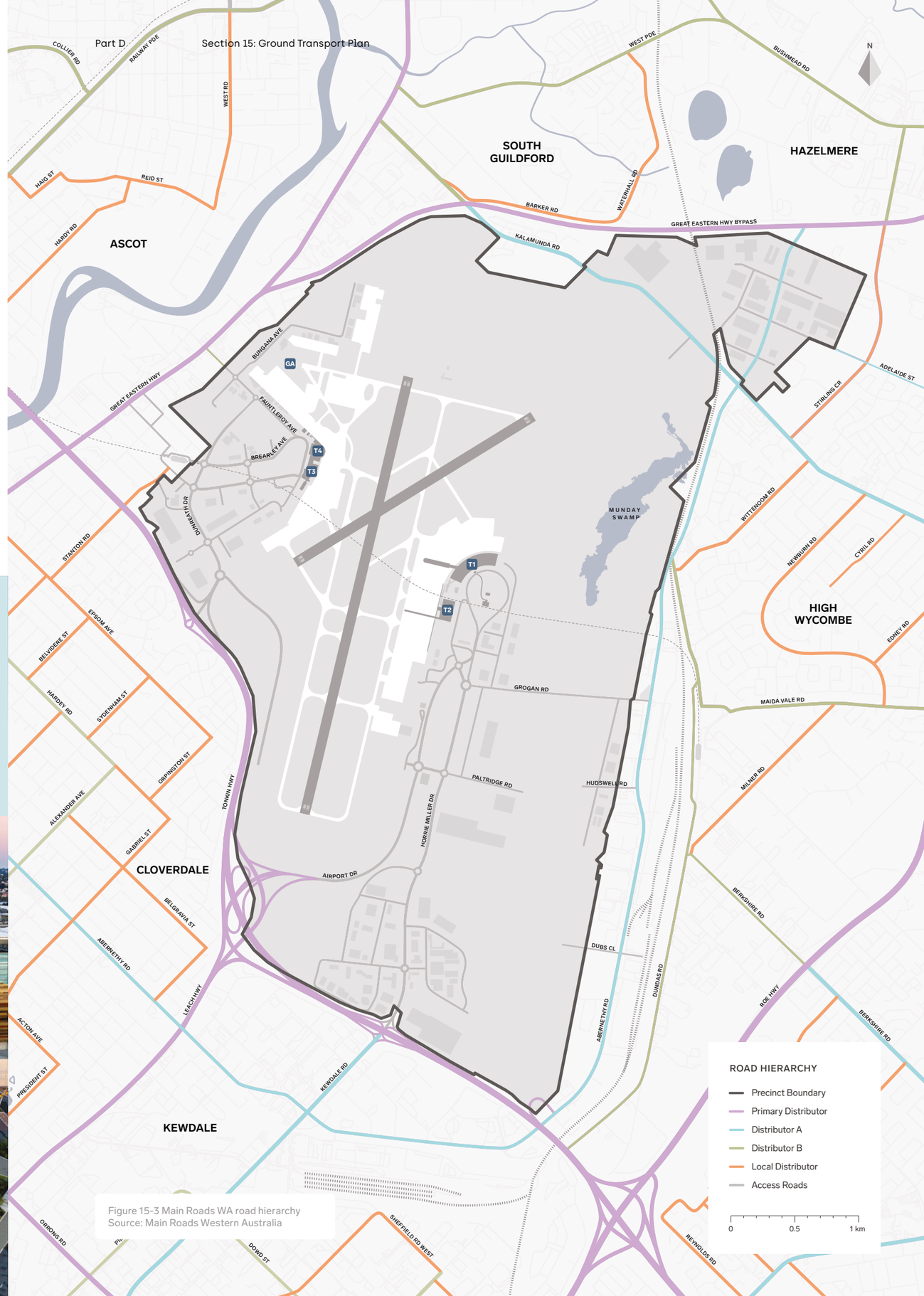


Figure 15-3 Main Roads WA road hierarchy
Source: Main Roads Western Australia

Figure 15-4 Perth Airport public transport connections
Source: Transperth

15.4 Public Transport

Public transport to Perth Airport is provided by bus services and, since 2022, by rail services.

The current transport connections provided by rail and bus are shown in Figure 15-4.

15.4.1 Rail

The Forrestfield-Airport Link (FAL) was the first stage of the State Government's METRONET project, a $3.6 billion passenger rail project comprising approximately 72 kilometres of new passenger rail and up to 18 new stations. The FAL is an 8.5-kilometre underground extension of the Perth rail network from Bayswater to Forrestfield, of which 3.8 kilometres is located within the Perth Airport estate. The project included the Airport Central Station, located within the Airport Central precinct, and two train stations outside the estate—Redcliffe Station and Forrestfield Station.

The FAL project was completed in 2022 and forms an integral component of Perth's long-term public transport network to meet existing and future public transport demand.

The connection of Perth Airport to the remainder of the metropolitan rail network offers passengers and employees who work on the estate an alternative means of accessing the airport. Currently, trains run every 10 minutes during peak times, providing passengers with an 18-minute journey time between Airport Central Station and the CBD, at the same payment rates as the rest of the Metropolitan rail network.

Perth Airport continues to work with the Public Transport Authority and the nearby local government authorities to ensure the stations are well connected to other modes of transport.

15.4.1.1 Airport Central Station

Airport Central Station was opened in October 2022 to support the consolidation of commercial passenger services within the Airport Central precinct. It is located in the core of the precinct and provides connectivity to the existing T1 and T2 forecourts as well as the future new terminal. Access to the terminals from the station is via the pedestrian Skybridge, a 280-metre elevated walkway connecting the Airport Central Station to the terminal forecourts. Integrating the rail station into the terminal and forecourt areas provides an effective ground transport system and a high-quality passenger and visitor experience.

The rail link provides an alternative to road-based access to the airport, and Perth Airport works with the Public Transport Authority to improve services to the airport and seamlessly link the Airport Central Station with the surrounding facilities and nearby employment.

The design of the new airport hotel and multi-storey car parks have been integrated with the Airport Central Station and Skybridge infrastructure.

15.4.1.2 Redcliffe Station

Redcliffe Station is located on State-controlled land, adjacent to the airport estate. The station includes a public transport interchange that provides links to local bus services and focuses on general metropolitan commuter passenger demand. The associated bus interchange significantly improves the catchment for public transport to the station. The station is located approximately 900 metres from T3 and T4 and is connected to these by a footpath.

Following the relocation of Qantas operations to the Airport Central precinct, Redcliffe Station will primarily serve the needs of local residents, Airport West retail and business park users, and the GA Area.

Perth Airport continues to work with the Public Transport Authority, METRONET and Main Roads WA to ensure and improve connection between Redcliffe Station and nearby attractions and employment.

15.4.2 Bus Services

Airport Central Station is currently serviced by the following bus routes:

- Route 37—Oats Street Station via Belmont Forum shopping centre and Kewdale Road, and
- Route 36—Cannington Station via Queens Park, Kewdale Road and Horrie Miller Drive.
- Redcliffe Station is currently serviced by the following bus routes:
- Route 935 (high frequency)—Kings Park via CBD and Belmont Forum
- Route 940 (high frequency)—CBD via Great Eastern Highway
- Route 39—CBD via the suburbs of Cloverdale, Belmont, Carlisle and Lathlain
- Routes 290 and 291—Midland Station via the suburbs of Guildford and South Guildford
- Route 293—High Wycombe Station via Belmont Forum and Abernethy Road, and
- Route 292—Fauntleroy Avenue and T3/T4 (Circular Route).

Perth Airport will continue to work with the PTA to confirm new and amended Transperth bus routes that will service the airport estate, including temporary services responding to large scale construction works over the next five years in the Airport Central precinct.

Perth Airport will also work with the PTA to ensure any required supporting infrastructure, such as connecting footpaths and wayfinding, can be accommodated where suitable.

15.5 On-Airport Traffic

Perth Airport is responsible for all roads within the airport estate. This includes roads that are publicly accessible as well as restricted access roads located within the airside areas of the estate.

The Ground Transport Plan caters for all activities on the estate including:

- passengers
- employees
- commercial development
- freight
- aviation support facilities, and
- fuel supply services.

Almost 70 per cent of current traffic on the estate is directly related to aviation activities, and the predominant mode of access to and from Perth Airport is road-based transport, both public and (primarily) private.

Although the opening of the FAL in 2022 and subsequent expansion of bus services have improved travel choice to and from the airport, road-based private transport (car, taxi and rideshare) is expected to remain the predominant mode for the next five years and throughout the planning period of this Master Plan 2026.

A comparison of the mode of travel by visitors arriving and departing the airport estate in 2015 and 2024 is shown in Figure 15-5.

The most significant change in mode share in the past 10 years has been the increase in the proportion of rideshare use, which has grown from 4.5 per cent in 2015 to 17.8 per cent in 2024. This coincides with a drop in taxi movements, which has decreased from 18 per cent in 2015 to 6.6 per cent in 2024. Private car use, which captures car park users (long term and short term) and public pick-up and drop-off, increased from 63 per cent to 69.2 per cent. Public transport has increased from 2.6 per cent to 3.7 per cent, likely following the opening of the FAL as bus use has dropped during the same period.

State and local governments are planning for and identifying opportunities to balance the transport mode share, which is currently dominated by car-based private vehicles in the Perth metropolitan area, towards more sustainable alternatives through initiatives, including:

- investing in new infrastructure and services in road, rail and public transport
- encouraging travel demand management for employees and contractors around key activity centres
- the provision of additional public transport options for both aviation passengers and employees and contractors at Perth Airport, and
- provision of new infrastructure such as paths, shelters and end-of-trip facilities for cyclists and pedestrians.

Perth Airport will collaborate with the Public Transport Authority to support efforts to grow train patronage, helping to maximise the benefits of the State Government's recent investment in rail infrastructure.

It will also continue working with key stakeholders to ensure a diverse and well-connected transport network is available.

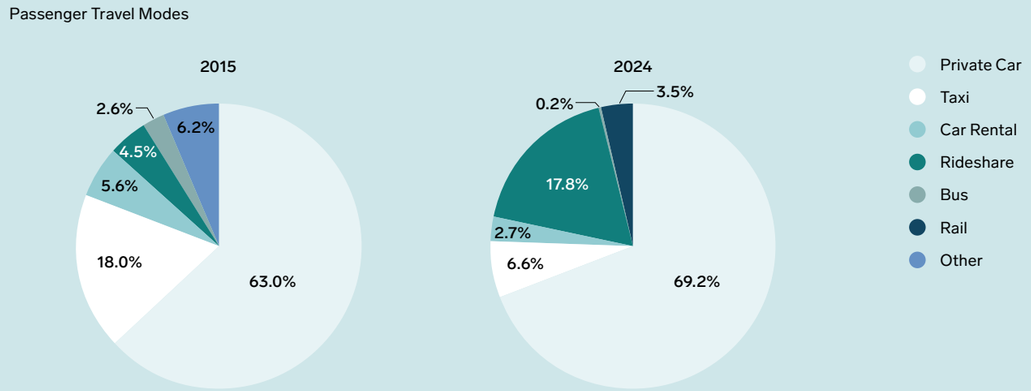
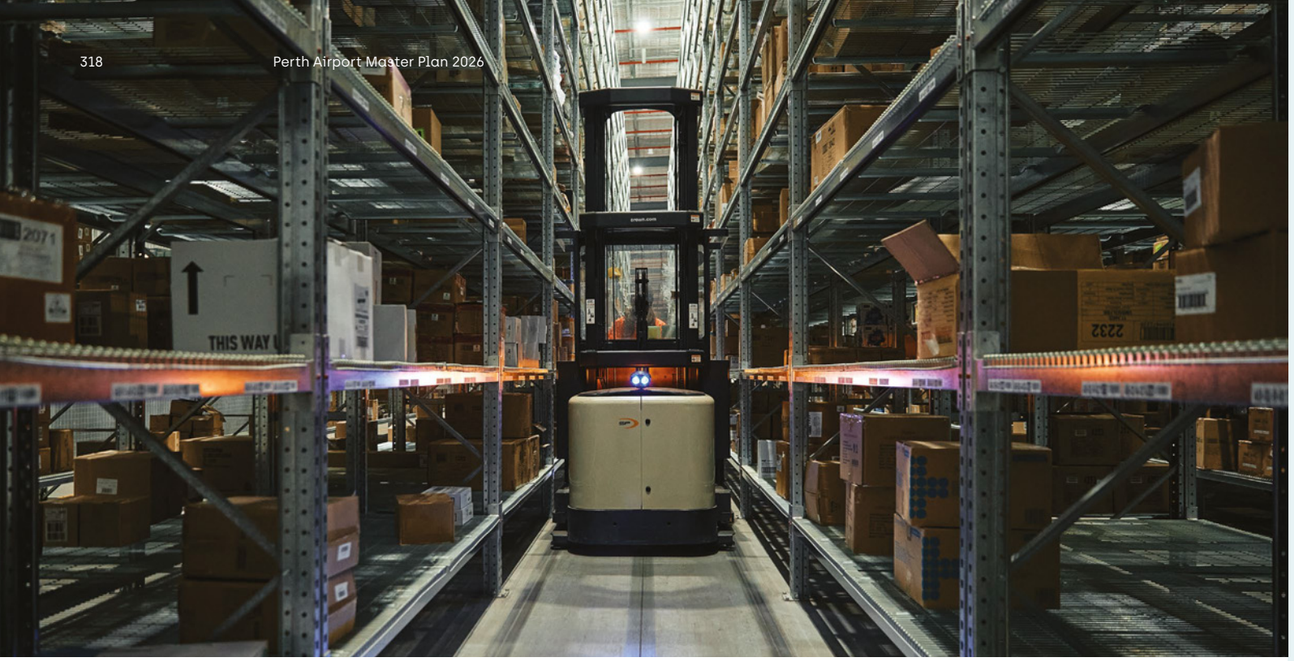


Figure 15-5 Comparison of passenger travel modes in 2015 and 2024
Source: Perth Airport



15.5.1 Logistics Strategy

Perth Airport has developed an estate-wide logistics strategy that captures the current and future requirements of all logistics movements.

The consolidation of terminals within the Airport Central precinct provides an opportunity to establish efficient logistical operations for people, vehicles, goods and equipment at the airport. The logistics strategy provides a framework for Perth Airport to apply during the design of future infrastructure such as the new terminal, multi-storey car parks, airport hotel and road network upgrades. It outlines key logistics principles and a concept of operations for key logistics considerations, such as a new central logistics facility to be incorporated into the new terminal, the location and role of future Gate 14 (the key point of airside access on the eastern side of the Airport Central precinct), and aviation support vehicle movements within the estate to minimise conflict points to passenger traffic.

15.5.2 Emerging Technologies

Planning for the short- and long-term also considers new travel modes and emerging technologies that are disrupting the more traditional ground transport options, as well as providing opportunities to improve ground transport and access to the airport.

The introduction of rideshare services has already seen changes in mode share, as more passengers choose to be dropped off on the forecourt via rideshare services instead of private vehicle pick-up and drop-off. Demand for car parking in the long-term car parking saw unprecedented growth through the COVID-19 pandemic which remains as a significant proportion of private car use. It is anticipated, however, that the rate of change will increase towards rideshare and car parking modes. The relocation of Qantas operations to the Airport Central precinct will impact on mode share, with rail use expected to increase given the proximity of Airport Central Station to all terminals.

15.5.2.1 Intelligent Transport Systems

In the short-term, additional intelligent transport systems will optimise the existing ground transport network. Harnessing the power of technology dramatically changes how Perth Airport operates and optimises transport networks. Rapid changes in how data can be collected and analysed in real time will enable network operators to make informed operational decisions to improve network efficiency, safety and customer experience. Implementation of intelligent system technology assists in managing transport networks under normal conditions, during periods of heavy congestion and when managing incidents.

There are opportunities for Perth Airport to implement intelligent systems to further optimise the use of the road network and parking infrastructure. The project opportunities of particular interest are:

- foundation infrastructure—vehicle detector stations on each lane of the main access roads and key locations, which provide real-time information of traffic volumes and issues on the network. The fibre optic backbone would link back to Perth Airport operations centre, with associated control systems to monitor and display the information. Additional CCTV coverage would also be considered to allow visual validation of congestion or other issues on the network
- digital signage—allows airport operational staff to dynamically control messaging to road users to manage the traffic in a way that optimises traffic flow for a range of different conditions at the airport, and
- smart parking sensors and/or use of existing CCTV—can be used for pick-up and drop-off or in car parks, with end-to-end navigation to guide drivers to an available bay and smart matching between car size and bays. This concept can be extended to the use of GPS (ground positioning systems) to guide automated vehicles towards vacant spaces in car parks and on forecourts.

Standards and guidelines for intelligent transport systems have been developed by Main Roads for the external road network. The systems at Perth Airport will be aligned with these standards to ensure a seamless journey for those travelling to and from the airport.

Autonomous vehicles may be widely adopted within the 20-year planning horizon, reducing car park demand but increasing terminal drop-off requirements.

15.5.2.2 Autonomous Vehicles

Autonomous vehicles may emerge as a viable option within the next five years and may be widely adopted within the 20-year planning horizon of this Master Plan 2026. Fleet, or privately-owned autonomous vehicles, will be able to drive themselves to and from the airport, reducing demand for airport car parks but increasing the need for drop-off and pick-up facilities located close to the terminals.

Similarly, as private ownership of autonomous vehicles increases, the proportion of customers choosing to use pick-up and drop-off facilities and have their vehicle drive itself to and from their residence or nearby remote parking facility would increase. This remote parking may include Perth Airport car parks.

Although the development of multi-storey car parks represents an opportunity to increase the capacity of pick-up and drop-off facilities, Perth Airport will continue to monitor ground transport mode share and will consider demand management to ensure all ground transport modes are operating as efficiently as possible.

The automation of logistics delivery vehicles is also anticipated. Autonomous vehicles may rely on or have their operation enhanced by their ability to communicate with other vehicles, intelligent transport systems, infrastructure and mobile devices. Further, autonomous vehicles may be facilitated by high-resolution digital mapping of the areas they operate in. Perth Airport will consider the technology required to facilitate this communication or other requirements of vehicle automation.

Autonomous vehicles are also likely to be used in place of the bus services currently used for long term car park and terminal transfers landside, and for remote stand passenger transfer airside. Additionally, many of the airside vehicles servicing aircraft, such as cargo dollies and aircraft tugs, could be automated.

The timing and scope of the developments and initiatives outlined in this ground transport plan are therefore flexible, and will be determined by close monitoring of ground transport trends and technologies as they emerge.

Autonomous transport technologies such as the use of air taxis, and of drones for parcel delivery, are discussed in Section 5.3.8.

15.5.3 Traffic Forecasting

Ground transport forecasting is based on a range of data inputs and assumptions. This can include existing traffic counts, car park data, State Government forecasts for traffic volumes on the external road network, passenger forecasts, future aviation and commercial development, and concept plans for future ground transport access arrangements. Forecasting also considers the potential impact of changes in modes of travel, as well as emerging future technologies.

Similarly, traffic modelling will be undertaken to simulate traffic performance within specific areas and assess the network capacity, resilience and ability to meet future transport demands.

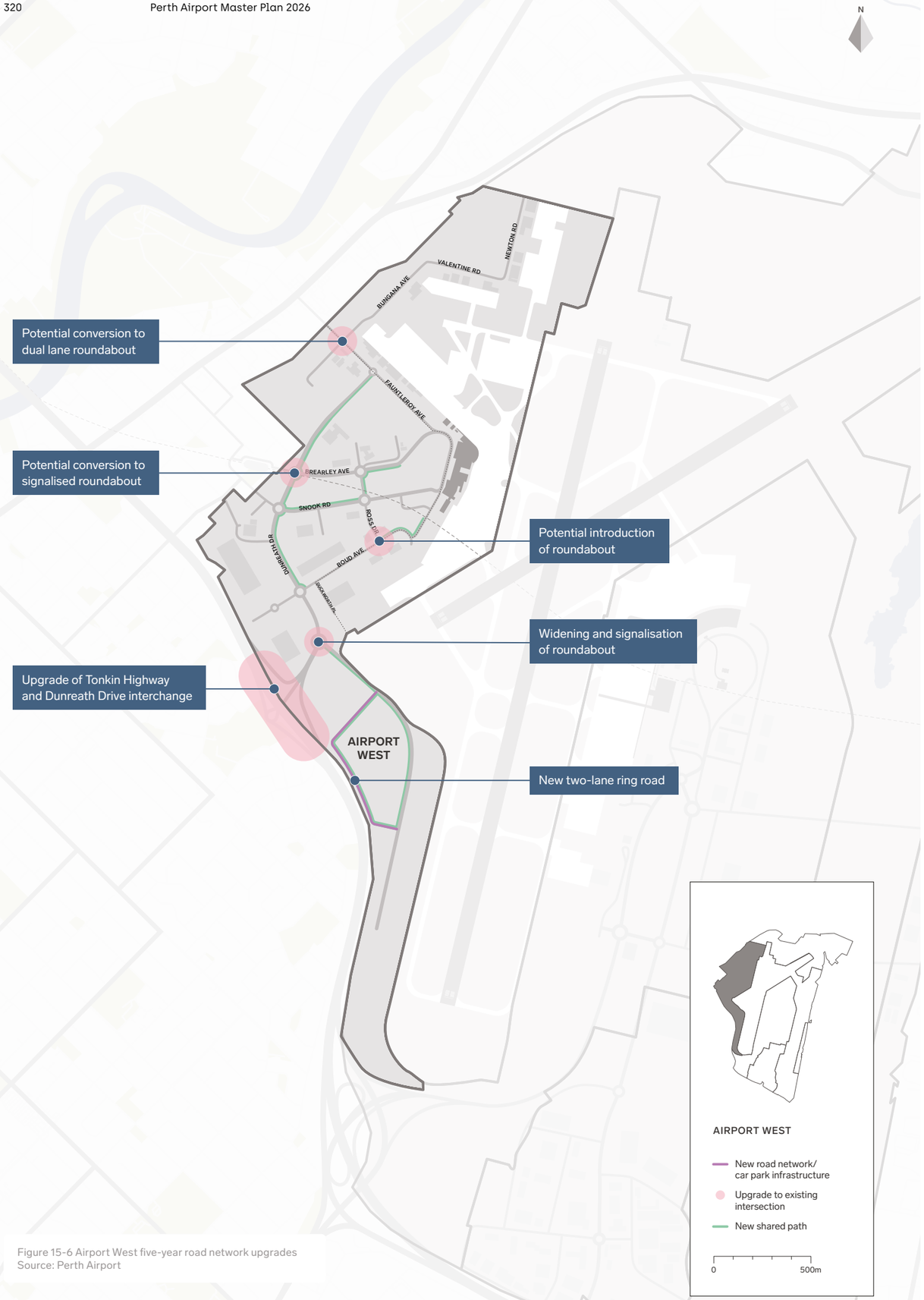


Figure 15-6 Airport West five-year road network upgrades
Source: Perth Airport

15.6 Airport West Precinct

The Tonkin Highway–Dunreath Drive interchange is the primary access to the Airport West precinct, with secondary access from Fauntleroy Avenue via Great Eastern Highway. Local access is provided via Central Avenue and Second Street within the City of Belmont.

Currently, the road network is designed to facilitate and prioritise access to T3, T4 and the GA Area. The ground transport plan will evolve as land use changes in this precinct.

Changes were made to the road network in 2023 to support the construction of the Dunreath Village shopping centre. These works included:

- a new High Street connection to the Second Street intersection with Boulder Avenue, and
- a new southbound right turn from Dunreath Drive to High Street.

The forecast traffic demand for the key road links in Airport West precinct is shown in Table 15-1.

Year	Dunreath Drive (vehicles per day)	Brearley Avenue (vehicles per day)	Fauntleroy Avenue (vehicles per day)
2024	47,000	17,000	17,000
2031	59,000	23,000	24,000
2046	47,000	5,000	16,000

Table 15-1 Forecast traffic for Airport West
Source: Perth Airport

T3 and T4 will continue to operate within the Airport West precinct until around 2031, when Qantas operations relocate to the Airport Central precinct. Passenger growth, and new developments within the precinct, will place pressure on the road network. Planned works to support the Airport West precinct road network operation over the next five years include:

- widening of the current Tonkin Highway and Dunreath Drive interchange with a potential southbound access into Dunreath Green to support increasing traffic demand
- potential widening and signalisation of the Dunreath Drive and Old Dunreath Drive intersection (first intersection after the Tonkin Highway and Dunreath Drive interchange)
- improving the Dunreath Drive and Brearley Avenue intersection through potentially converting to a signalised roundabout
- new two-lane ring road around new prospective development in Dunreath Green development area, linking back to Dunreath Drive
- potential introduction of a roundabout at the Boud Avenue and Ross Drive intersection to improve traffic efficiency, and
- potential conversion of the existing single lane roundabout at the Fauntleroy Road and Bungana Avenue intersection into a dual lane roundabout to improve traffic efficiency.

The concept for the ground transport network over the next five years within the Airport West precinct is shown in Figure 15-6.

Following the consolidation of all commercial air services to the Airport Central precinct, the closure of T3 and T4 will greatly decrease demand on the road network and car parking facilities within the precinct. The modes of transport will change as priorities for ground transport shift from ensuring passenger access to T3 and T4, to becoming a transit-oriented development that meets the needs of the GA Area and the future commercial developments. To meet future demand, the road network will be assessed to identify opportunities for repurposing roads and improving amenity in the precinct. Potential road network changes over the 20-year planning period include:

- constructing a new ring road that wraps around the Airport West precinct via Fauntleroy Avenue, Miller Road and Boud Avenue. This would also require upgrades to the Great Eastern Highway and Fauntleroy Avenue intersection
- converting Dunreath Drive to a shared zone surrounding Redcliffe Station as the existing office park continues to expand. This will enhance the journey for rail users and office users to be able to walk safely to numerous existing and new tenancies within the surrounding area, and
- potentially replacing the roundabouts on Dunreath Drive with traffic signals, to reflect the changing needs of those accessing the precinct and to improve connectivity to the GA Area, nearby businesses, residences and public transport.

15.7 Airport Central Precinct

The primary access to the Airport Central precinct for terminal-related traffic is via Airport Drive, with freight and commercial traffic using Horrie Miller Drive.

Airport Drive is the primary traffic route to T1 and T2, and ultimately to all terminals following the relocation of Qantas operations to the Airport Central precinct in the future.

Airport Drive is currently constructed as a dual carriageway with two lanes in each direction and has been designed to be widened as traffic volumes increase in the future. Major intersections on Airport Drive are currently roundabout controlled, as this facilitates turning movements to support current operations and prioritises traffic to the terminals.

With the relocation of Qantas operations into this precinct, and the forecast growth in passenger numbers, vehicle traffic volumes will experience a step change in demand by 2031. Terminal-related traffic in Airport Central is projected to increase from 24,000 vehicles per day in 2024 to 65,000 vehicles per day in 2031 and 93,000 vehicles per day in 2046. Most of the increase will be passenger-related traffic concentrated on Airport Drive. The forecast numbers of vehicles per annum, in relation to forecast total passengers, are shown in Table 15-2.

To increase the efficiency of the current network and expand capacity to support future demand, Perth Airport is undertaking substantial road traffic upgrades over the next five years. These works are detailed in the Major Development Plan for the Airport Central (Ground Transport Upgrade), approved by the Hon. Barnaby Joyce MP, Minister for Infrastructure, Transport and Regional Development on 2 September 2021, and include:

- converting Sugarbird Lady Road to a one-way (southbound) traffic flow that provides two lanes for vehicles exiting the T2 forecourt (completed in early 2025)
- widening sections of Airport Drive from two lanes in each direction to three lanes in each direction
- upgrading the roundabout which intersects Airport Drive, Sugarbird Lady Road and Horrie Miller Drive, to a grade separated solution that will take Sugarbird Lady Road traffic overhead of Airport Drive to allow free-flowing traffic along Airport Drive
- upgrading the roundabout that intersects Airport Drive and Paltridge Road to a signalised solution
- relocating the passenger, taxi, rideshare and long-term car park bus drop off and pickup facilities to a new multi-modal transport interchange that will be located within the area of the existing T1 short term car park, as shown in Figure 15-8 (the interchange also incorporates a multi-storey car park which is described in Section 15.10.2)
- closure of existing T1 forecourt road and the creation of a pedestrian plaza (access will be maintained for emergency services vehicles)
- construction of a second multi-modal interchange and multi-storey car park, located in the east of the Airport Central precinct
- road modifications associated with access and egress routes for the new multi-storey car parks and hotel, and
- expansion of Martin Road.

The five-year ground transport plan for Airport Central is shown in Figure 15-7.

Year	Million passengers per annum	Airport Drive (vehicles per day)	Horrie Miller Drive (vehicles per day)	Terminal-related traffic (vehicles per day)
2024	8.44	34,000	19,000	24,000
2031	20.35	75,000	32,000	65,000
2046	30.61	108,000	45,000	93,000

Table 15-2 Forecast traffic for Airport Drive and Horrie Millier Drive
Source: Perth Airport

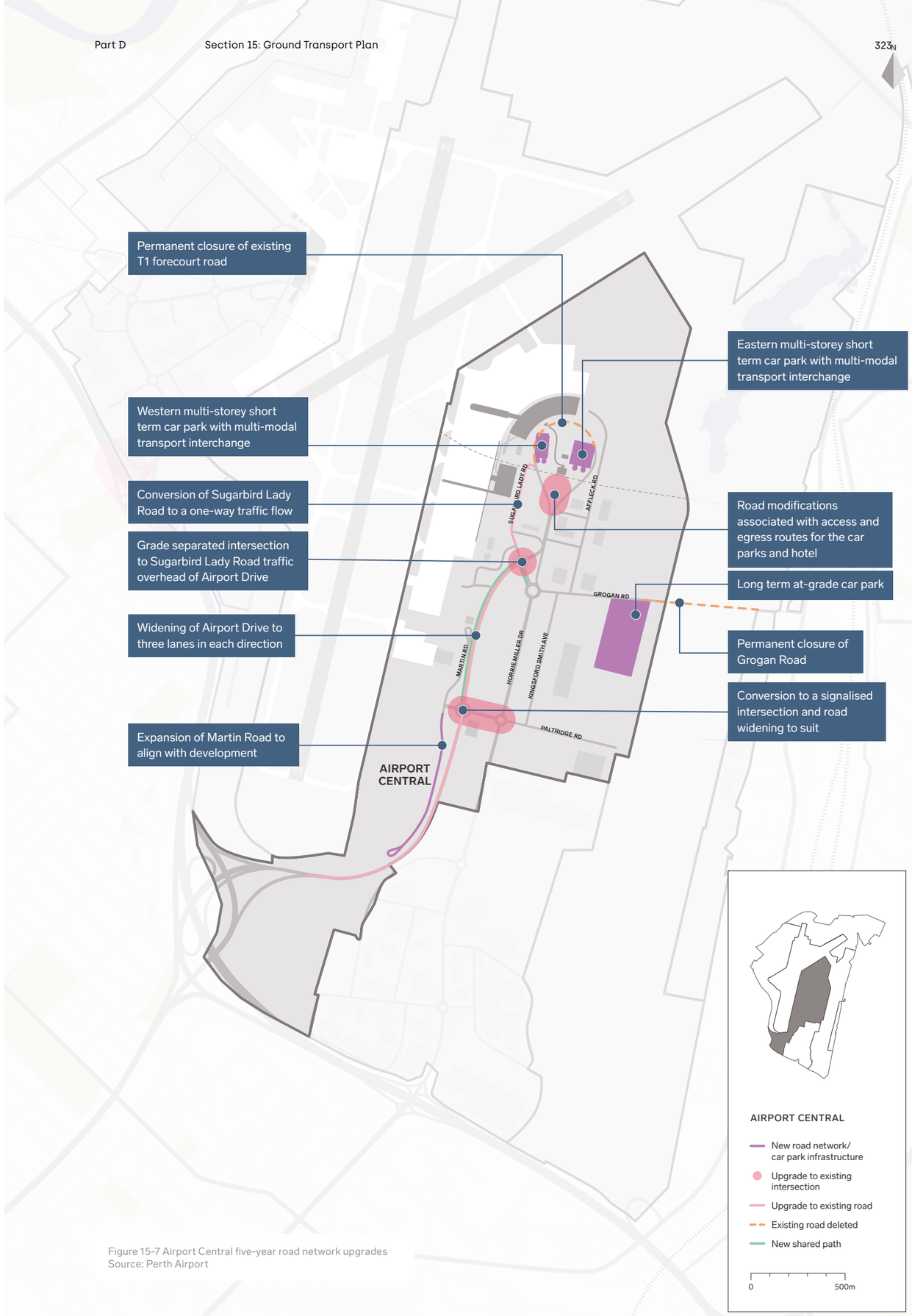


Figure 15-7 Airport Central five-year road network upgrades
Source: Perth Airport

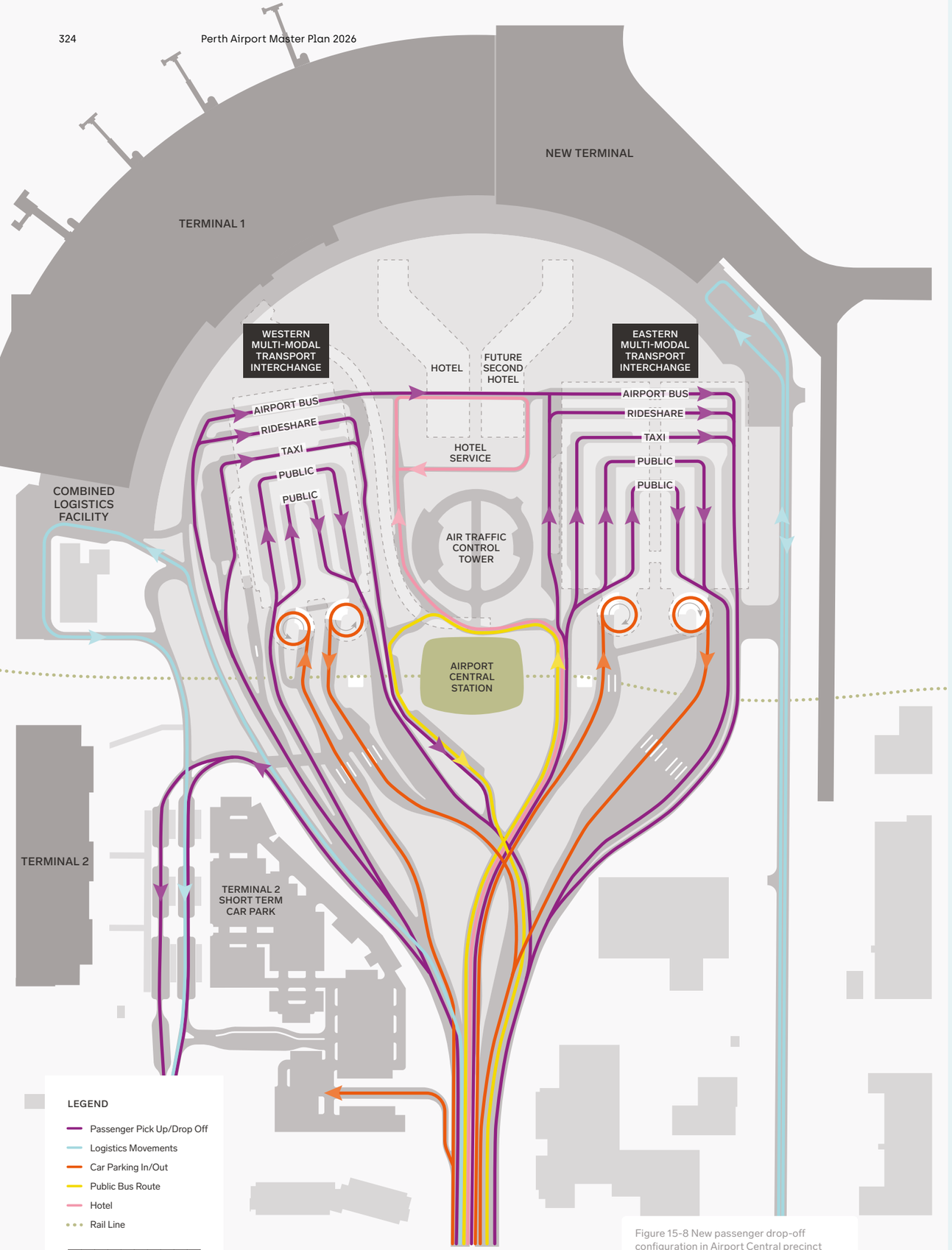


Figure 15-8 New passenger drop-off configuration in Airport Central precinct
Source: Perth Airport

Potential road network changes over the 20-year planning period include:

- further widening to Airport Drive by one additional lane in each direction between Sugarbird Lady Road and Paltridge Road
- potential grade separated upgrade of the Airport Drive and Paltridge Road intersection
- widening of Paltridge Road and Kingsford Smith Avenue to allow for increased traffic flow with anticipated passenger and freight growth
- new two-way road connecting Paltridge Road and Grogan Road, and
- road network connectivity to the future terminal reserve.

The timing of these developments will be informed by the close monitoring of traffic levels on main access routes to the airport as well as by passenger growth.

Future demand could also be managed through drop-off and pick-up facilities at satellite locations, most likely in the southern portion of Airport Central or Airport South. To ensure reasonable levels of service for those passengers choosing to be picked up and dropped off at future satellite locations, Perth Airport will investigate the use of Automated Mass Transit systems such as automated buses, trackless trams and automated people movers to connect this location with the terminals and long-term car parks. Such a system could eventually replace the buses transporting passengers and visitors between the various car parks and terminals. It could also serve to connect Airport Central Station to the many businesses in other parts of the estate, particularly those in the southern portion of Airport Central and Airport South.

Perth Airport is committed to collaborating with Main Roads to monitor increases in demand on the Gateway WA network, including the airport interchanges.

Terminal-related traffic in Airport Central is projected to increase from 24,000 vehicles per day in 2024 to 93,000 vehicles per day in 2046.

Figure 15-9 Airport South five-year road network upgrades
Source: Perth Airport

15.8 Airport South Precinct

The Airport South precinct is primarily accessed via Horrie Miller Drive from the intersection with Tonkin Highway and Kewdale Road, with secondary access via Grogan Road which connects off Abernethy Road.

Horrie Miller Drive is a dual carriageway with two lanes in each direction and roundabouts at intersections. It will remain the primary access for the Airport South precinct, handling commercial vehicles travelling to and from the Airport Central precinct, and providing access to key facilities such as cargo terminals, freight forwarders, catering facilities, maintenance repair operators and aviation fuel sites. It also functions as the route for the terminal buses to and from the long-term car park.

In the eastern portion of Airport South, Hudswell Road and Dubs Close will continue to provide freight vehicle access from Abernethy Road.

The construction of the new runway includes the re-closure of Grogan Road, which was previously closed to through-traffic between 1987 and 2005. Grogan Road will be closed between Abbott Road and the Airport Central precinct, and access to the terminals and businesses within Airport Central will be via the Roe and Tonkin Highways. Many of the businesses currently accessed by this portion of Grogan Road will be relocated as part of the construction of the new runway and other works supporting the consolidation of passenger operations within Airport Central. The planning for the re-closure of Grogan Road is detailed in the Major Development Plan for the New Runway Project, approved by the Federal Minister for Infrastructure in November 2020.

The five-year ground transport plan for Airport South is shown in Figure 15-9.

Access along Tonkin Highway south of the airport estate will be improved through the $366 million Tonkin Highway Corridor Project being jointly funded by the Australian and State governments. This project is part of a suite of improvements to transform Tonkin Highway to a high standard north-south transport link and will benefit access between Airport South and the industrial areas of Welshpool, Forrestfield and Kewdale, as well as residential areas to the south of the airport. Due for completion in 2028, the project includes widening of Tonkin Highway from south of Roe Highway to Kelvin Road, and grade separations at the Tonkin Highway intersections with Welshpool Road, Hale Road and Kelvin Road.

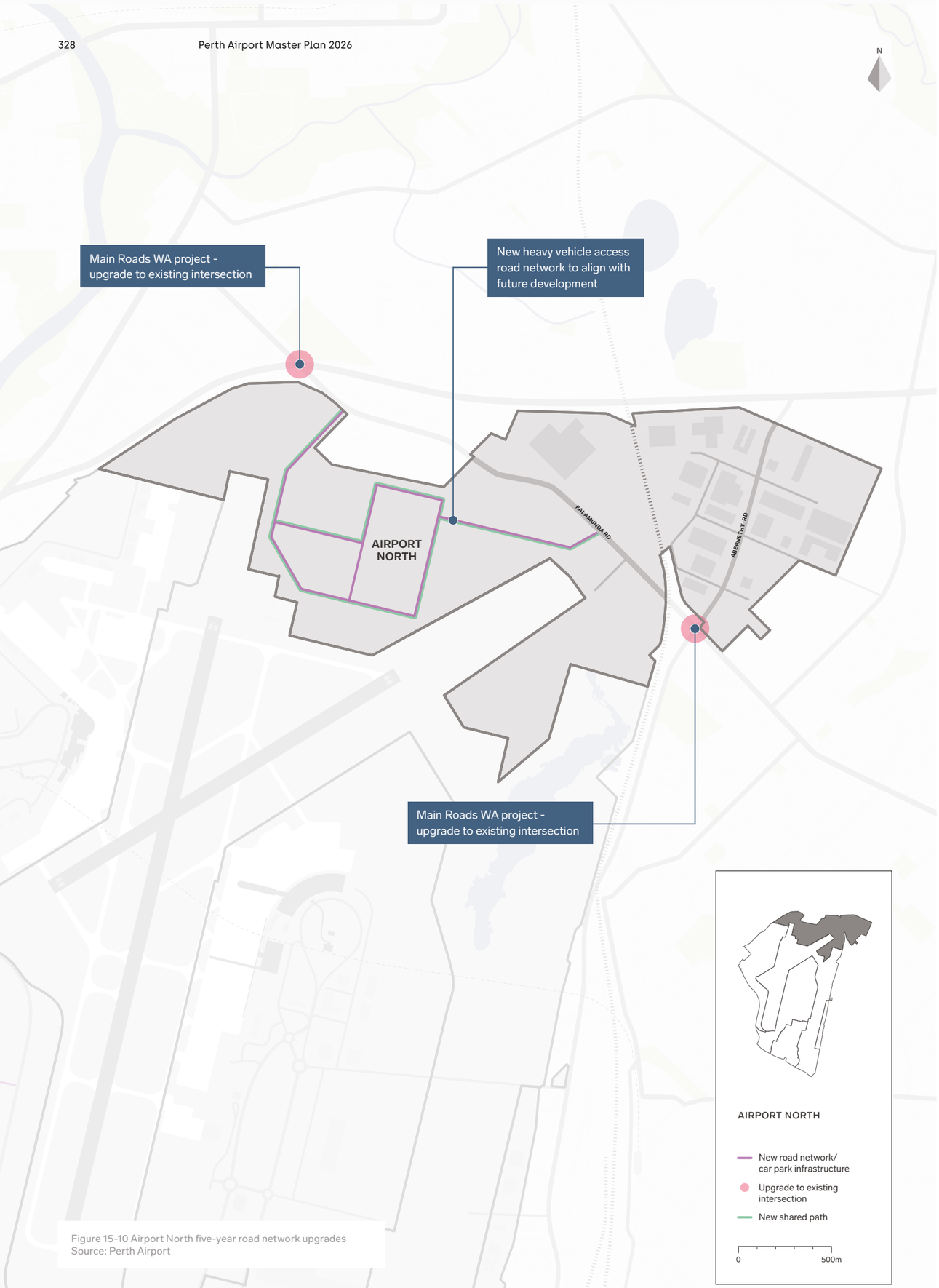


Figure 15-10 Airport North five-year road network upgrades
Source: Perth Airport

15.9 Airport North Precinct

Access to the Airport North precinct is provided by Kalamunda and Abernethy roads, both of which form part of the metropolitan regional road freight network.

This access will be improved by the $170 million Perth Airport Precinct—Northern Access Project being jointly funded by the Australian and State governments and planned for delivery by the State Government within the next five years. This project will make heavy vehicle movements safer and more efficient, at the same time providing the access required to deliver the future potential of the Airport North precinct. These works are shown in Figure 15-11 and include two connections to the Airport North precinct.

Development of the road network within the Airport North precinct will occur in line with the development of land uses. An efficient and appropriately sized network is critical to ensuring that the desired character and function of the precinct is achieved. Heavy vehicle access is required for the planned industrial and logistics land uses. The five-year ground transport plan for Airport North is shown in Figure 15-10.

The Midland Freight Rail line currently runs along the eastern boundary of the estate and provides the opportunity for a future private rail access spur for the direct deliver of freight by rail into the eastern portion of Airport North. This will continue to be explored by Perth Airport and is captured in the 20-year ground transport plan Figure 15-16.

Development of the road network will occur in line with the development of land uses.

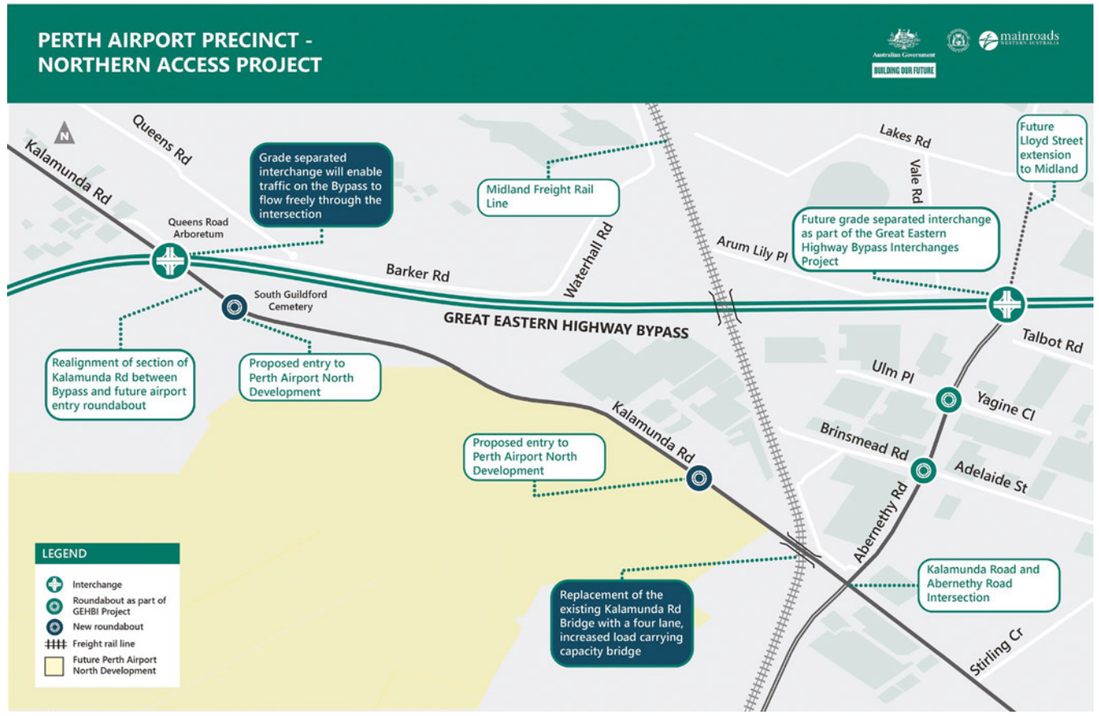


Figure 15-11 Perth Airport Precinct – Northern Access Project
Source: Main Roads Western Australia

Figure 15-12 Existing car park locations
Source: Perth Airport

15.10 Car Parking

Perth Airport has more than 28,000 car parking bays for passengers, visitors and staff across the estate. Current car parking options are shown in Figure 15-12 and includes:

- Perth Airport valet parking at T3 and T4
- premium parking in covered, extra-wide bays only a one-minute walk from the T3 and T4 check-in areas
- short-term parking, located immediately outside each terminal
- short-term saver parking, located close to T3 and T4 terminals
- long-term parking, with free regular bus services to each terminal
- long-term undercover parking, available at T3 and T4
- undercover and general parking bays at the GA Area, and
- airport staff car parking in both Airport West and Airport Central precincts.

Short-term car parks typically have a smaller number of bays compared to long-term car parks, as the turnover of vehicles is more frequent in short-term.

Perth Airport ensures that all developments within its estate include sufficient ACROD parking facilities and requires ACROD bays to be given priority in the parking bay hierarchy. ACROD bays are designed to meet Australian Standards and comply with the *Disability Discrimination Act 1992*, ensuring accessibility and inclusivity for all users. The Perth Airport shuttle buses also cater for passengers of all abilities.

With the increasing use of rideshare, automated vehicles on the horizon, and public transport connections through the Forrestfield-Airport Link and Transperth bus services, the future demand for car parking is difficult to forecast.

Perth Airport has more than 28,000 car parking bays for passengers, visitors and staff across the estate.

Car parking to support commercial and other non-aviation land uses within the Perth Airport estate is intended to be provided within each individual development site.

Car rental facilities are currently located proximate to the terminals; these are planned for relocation to the multi-storey car parks. In the longer term, traffic levels and demand for car parking may trigger relocation of car rental pick-up and drop-off facilities to a site closer to the highway interchanges, at which point they may also be serviced by an Automated Mass Transit system.

The current primary taxi and rideshare holdings areas for T1 and T2 are located at the southern end of Long Term Car Park G, with taxis having access to additional secondary staging areas closer to the terminals. To accommodate the expansion of terminal operations in the Airport Central precinct, the existing holding area within Long Term Car Park G will be expanded to meet passenger demand. The existing staging areas for taxis will be transitioned into the new multi-modal transport interchanges (discussed in Section 15.10.2).

Artists impression of the western multi-storey car park

15.10.1 Airport West Precinct

Since 2020, Perth Airport has invested in a range of projects to continue to support Qantas Group operations in T3/T4, including:

20 additional pick-up and drop-off bays

Implementing an express pick-up and drop-off system for the T3/T4 forecourt, incorporating the addition of 20 additional pick-up and drop-off bays, redesign of ACROD bays, and improving pedestrian flow by upgrading the crossing and installing traffic lights

216 undercover bays

Expansion of the T3/T4 car parks to add 216 undercover bays within the T4 Premium Car Park, and creation of a new 533-bay Short Term Saver Car Park

175 staff parking bays

Expansion of Staff A Car Park by an additional 175 car parking bays

576-bay Long Term Car Undercover

Expansion of Staff A Car Park by an additional 175 car parking bays

330-bay Long Term Car Park

Construction of the 330-bay Long Term Car Park E.

The Airport West precinct currently provides 7,640 public car park bays, with 6,310 bays within long-term car parks and 1,330 bays within the short-term car parks.

The T3 and T4 taxi holding and staging areas are located adjacent to Fauntleroy Avenue. The rideshare holding area is located off Dunreath Drive, co-located with Long Term Car Park A. The rideshare holding area is planned to be co-located with the existing taxi holding area within the next five years.

Following the relocation of Qantas operations to the Airport Central precinct and the subsequent closure of T3 and T4, the associated T3/T4 car parking will be discontinued and the land made available for alternative land uses.

15.10.2 Airport Central Precinct

Perth Airport has continued to invest in parking infrastructure within Airport Central. Projects undertaken since 2020 include:

1,000 bays to Airport Central

Expansion to existing Long Term K Car Park in Airport Central to add 1,000 bays

216 undercover bays

Conversion of 1,000 car bays within the Long Term H Car Park into dedicated airport staff parking facilities

2,300 bays in Long Term Car Park L

Construction of a new 2,300 bay Long Term Car Park L

310 bay Short Term Saver

Construction of a new 310 bay Short Term Saver car park

The Airport Central precinct currently provides 13,300 public car park bays, with 12,000 bays in the long-term car parks and 1,300 bays in the short-term car parks. There are a further 1,200 car parking bays for airport staff.

The construction of the new terminal, and relocation of Qantas operations to the Airport Central precinct around 2031, will place significant demand on the requirement for additional car parking spaces in the precinct. Demand for parking is forecast to reach 27,200 bays by 2046, requiring an additional 16,700 bays within the Airport Central precinct. Parking projections are inclusive of staff parking requirements and have been calculated through applying parking penetration (based on historical trends) to passenger forecasts.

Figure 15-13 shows the Airport Central long-term car parking demand projections to 2046.

The availability of land for additional parking within Airport Central is heavily constrained. To support the key land use objective of safeguarding for flexible and adaptive growth, Perth Airport is meeting car park demand in Airport Central through construction of two multi-storey car parks adjacent to the terminals. The ground level of the facilities will function as a multi-modal transport interchange for passenger drop-off and pick-up by all vehicle types, including private vehicles, buses, rideshare and taxis. The two multi-storey car parks are set to deliver an anticipated net increase of over 2,900 short term bays close to the terminals.

Perth Airport are planning EV charging at suitable parking locations across the estate.

Spatial planning aims to minimise walking distances and provide a seamless journey between the parking areas and terminals.

The two multi-storey car parks are detailed in the Major Development Plan for the Airport Central (Ground Transport Upgrade) approved by the Hon. Barnaby Joyce MP, Minister for Infrastructure, Transport and Regional Development on 2 September 2021. The multi-storey car parks will be delivered in stages, with the first facility due for completion in 2026. The second multi-storey car park is planned to be operational for the opening of the new terminal. An intelligent traffic system will be implemented to ensure overflow capacity can be managed between the two facilities, so as to maintain operational flexibility and journey time reliability.

The Ground Transport Upgrade project also includes an expansion of the T2 short-term car park by approximately 120 bays. Perth Airport plans to deliver additional long-term, at-grade car parks within the Airport Central precinct. These parking solutions will meet current demand while preserving flexibility for future land use in the area. Beyond 2031, if car parking demand continues to rise as projected, additional multi-storey car parks and automated people movers may be considered.

Perth Airport are also planning EV charging at suitable parking locations across the estate.

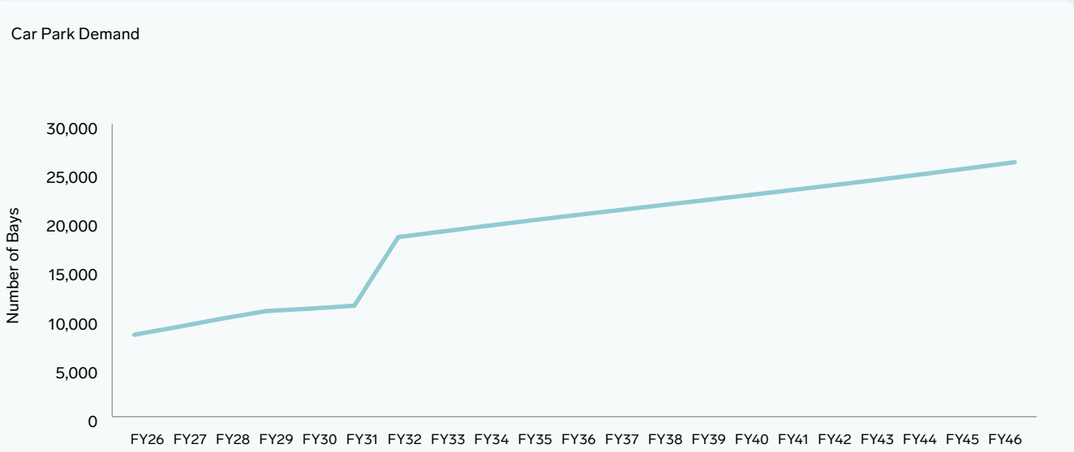


Figure 15-13 Airport Central forecast car park demand
Source: Perth Airport


Artists impression of the western multi-storey car park

15.11 Active Transport

Cycling and walking facilities are currently predominantly used by employees working within the estate, however there is a desire to grow both the number and type of user. As such, shared paths will continue to be provided throughout the estate to provide users with travel choices. To further encourage active travel use, further initiatives such as including end-of-trip facilities in commercial developments, will also be considered.

The Airport South precinct is accessed by a shared path that connects to the Principal Shared Path (PSP) which runs along Tonkin Highway and terminates at Reid Road.

T1 and T2 are serviced by a shared path that runs along Airport Drive before connecting to the PSP along Tonkin Highway, which connects to the wider, regional PSP and active travel network.

Airport West is served by shared routes providing access to T3, T4, the GA Area, and retail and commercial areas. A pathway between Redcliffe Station and T3/T4 was constructed in 2022.

To support the sustainability and environmental objectives outlined in Section 7, improved and efficient active transport connections to and within the estate are essential. As noted in Section 15.5, private car use remains the dominant mode of travel to and from Perth Airport. Enhancing active transport infrastructure both within and around the estate will offer greater travel choices for passengers and staff — particularly for those using public transport, e-mobility options, walking or cycling. Perth Airport has also developed Public Realm Design and Technical Requirements, which provide a blueprint to integrated and intuitive pedestrian amenity and connectivity within areas of development on the estate. Perth Airport has undertaken active transport studies for the Airport Central and Airport West precincts (including the GA Area) with a focus on providing short term upgrades to ensure customer safety, as well as a longer-term emphasis on the linkages to and from the surrounding land uses and future development areas, for a wholly integrated plan of maximum benefit to the community. This integrated approach focuses on sustainable movement ideas to provide active transport outcomes that ensure the needs of all ages and abilities are fully considered, and users have legitimate travel choices.

Identified upgrades to shared paths within the Airport West precinct to enhance safety and connectivity for pedestrians and cyclists over the next five years include new shared paths along Brearley Avenue, Snook Road, Boud Avenue and Dunreath Drive, as well as upgrades to existing footpaths to accommodate shared use throughout the precinct. These upgrades will include mid-block crossing points to enhance accessibility and visitor experience, and integrate with existing and future bus services. For the Dunreath Green development area in the southern part of Airport West, Perth Airport will ensure developments in this area actively incorporate active transport connections and other supporting infrastructure.

Additionally, road network upgrades in the Airport Central precinct will involve reconfiguring shared paths, including constructing a new underpass to connect the long-term car parks with the existing shared path leading to the terminals. In the Airport South precinct, minor shared path improvements are also planned for the near future.

There are currently no dedicated shared paths providing access to Airport North. Future shared path access to Airport North may be affected by factors such as the low-density development around the area—Kalamunda Road forming part of the RAV network and carrying a high proportion of heavy vehicles—and a lack of current and planned shared paths in the wider surrounding network. For future development in Airport North, Perth Airport will plan for the provision of active transport infrastructure where appropriate.

Figure 15-14 shows the pedestrian and cycle networks on the Perth Airport estate.

Figure 15-14 Pedestrian and cycle access
Source: Perth Airport

15.12 Wayfinding

Wayfinding is important to ensure the effective and efficient movement of vehicles, pedestrians and cyclists within the estate as part of a passenger's journey.

Within the estate, Perth Airport has installed advanced car park vacancy signs on key roads, showing where parking is available, thereby allowing users to select the most appropriate car park. The car park transfer bus service also has active signs at bus stops to advise passengers of the arrival time for the next bus.

Ground transport wayfinding will continue to be provided across the estate.

Perth Airport will continue to work with Main Roads to provide intelligent signage on key road access routes to inform traffic leaving the airport of any incidents off–airport, to allow drivers to modify their journey if required.
Perth Airport will work with the Public Transport Authority to explore opportunities to provide similar information for public transport services.

15.13 Five-Year Ground Transport Implementation Plan

The projects associated with the ground transport implementation plan over the next five years is shown in Figure 15-15.

15.14 20-Year Ground Transport Implementation Plan

The projects associated with the ground transport implementation plan over the next 20 years is shown in Figure 15-16.

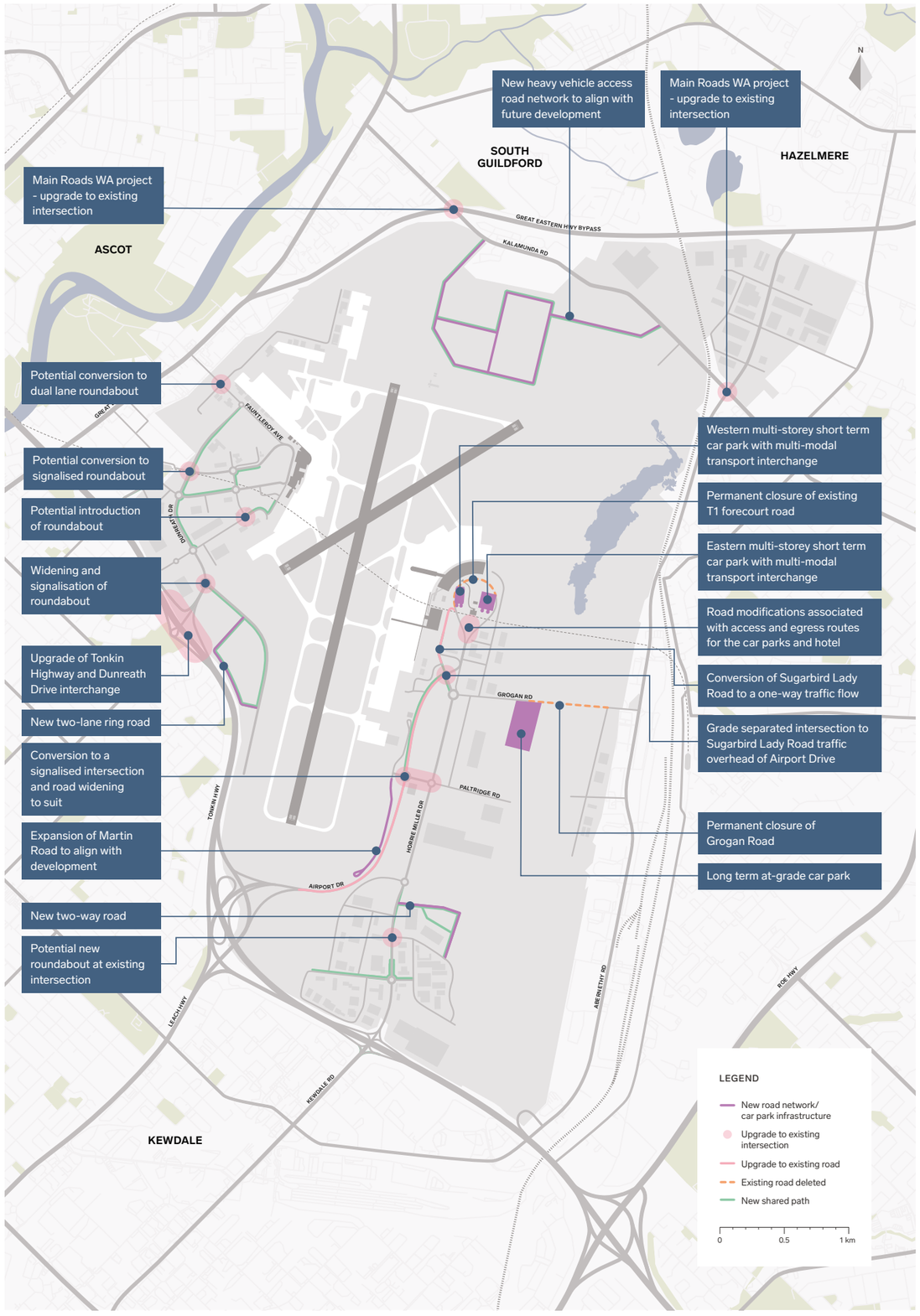


Figure 15-15 Perth Airport five-year ground transport plan
Source: Perth Airport

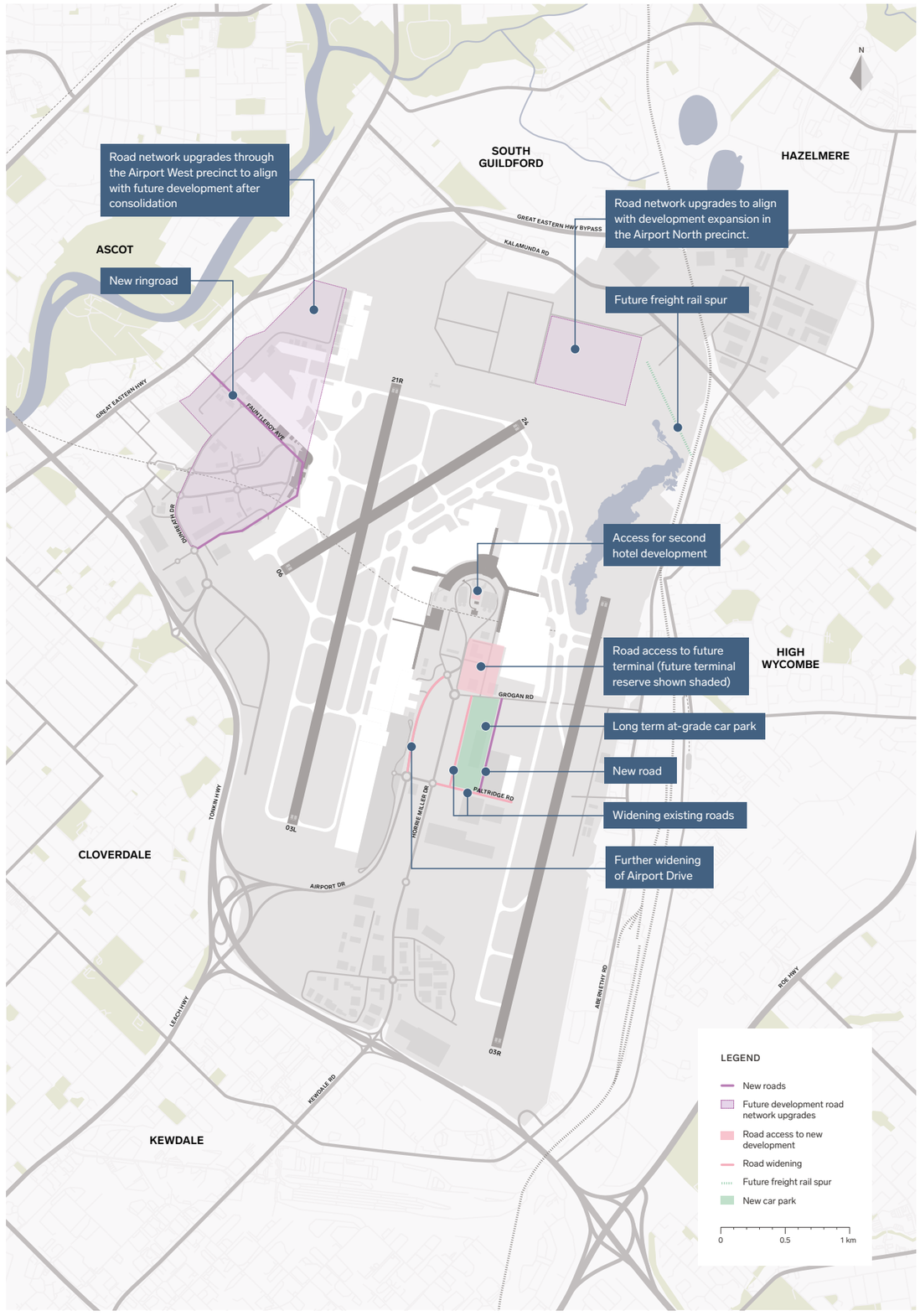


Figure 15-16 Perth Airport 20-year ground transport concept plan
Source: Perth Airport