Industry Spotlight

Regional Service Continuity

How can resilient digital infrastructure strengthen industries and services across regional WA?



Regional service continuity is about keeping data-intensive services working across distance, for communities as much as for industry. Non-mining digitally enabled activity is forecast to reach $13.8 billion by FY40, of which around $2.1 billion,[1] or 15%, would be generated outside Greater Perth. Higher-capacity backbone infrastructure supports the mobile, satellite and enterprise networks serving regional communities and industrial sites, where the cost of distance is highest. Agriculture, ports and freight, and regional government services show the clearest gains. There is a significant opportunity in this space, with 88% of regional businesses reporting a sufficient or mostly sufficient connection.

$2.1bn
Contribution to WA's Digital Economy in FY40 from regional non-mining

Performance of regional business internet connection (National, FY2025)

49.1%
Sufficient

38.7%
Mostly Sufficient

3.1%
Mostly Insufficient

9.2%
Insufficient

Service continuity in regional WA is constrained by the access layer as much as by backbone capacity. Mobile blackspots remain wide- spread across the State's freight corridors, agricultural districts and remote communities, and coverage gaps limit the value that higher-capacity backbone infrastructure can deliver to the users at the end of it. Site resilience is the second constraint: regional tower infrastructure exposed to cyclone, bushfire and extended grid outages requires backup power, hardened site design and diverse backhaul if services are to remain available during critical events.

Source: ABS, Characteristics of Australian Business, 2024-25

1. Some of this will be captured in the values highlighted in 3.2.1 and 3.2.2 as part of the regional impact of those industries, and as a result is not additive.

WA's advantages

WA's regional economy is concentrated in a small number of high-value nodes despite its geographic spread. Pilbara Ports moved 804.1 million tonnes worth an estimated $150 billion in FY2025-26, and the grain belt's harvest passes through a similarly narrow set of receival and port facilities. Capacity added along the corridors linking these nodes therefore reaches a large share of the regional opportunity without requiring uniform coverage across the State.

Key barriers

Infrastructure Australia reported that fewer than half of households were connected in some regional areas in 2018, against 83% across the State, with cost, congestion and unreliability limiting what existing services support and more than 450 mobile blackspots still recorded.[2] Backhaul capacity, resilience and backup power determine whether applications keep working through fires, floods and cyclones, and smaller agricultural and transport businesses face cost, skills and integration barriers that larger resource operators do not.

Benefits to WA

Stronger regional connectivity could support productivity in industries that already generate a large share of WA's exports, and broaden the range of work that can be undertaken outside Perth. Better health, education and government services can support the retention of skilled workers in regional towns.

Key use cases

1. **In agriculture, connected sensors, weather and soil data, autonomous machinery and traceability** systems let growers vary inputs at paddock level, monitor water and stock remotely, and document provenance for export customers.

2. Ports, freight networks and industrial precincts use **automation, digital twins and real-time cargo tracking** to lift throughput without building new physical capacity, which requires low-latency links between remote terminals, Perth control rooms and overseas customers.

3. **Telehealth consultations, remote diagnostics and secure sharing of imaging and patient records** extend specialist care into towns that cannot support resident specialists, and schools can connect regional students to teachers based elsewhere.

4. **Land management agencies use satellite and sensor data** for fire, flood and environmental monitoring.

2. Infrastructure Australia (2020) *WA regional digital enhancement.* Available here.

Use Case: Main Roads WA

Main Roads WA manages the State's arterial road network across an area of approximately 2.5 million square kilometres.[3] It also operates an expanding network of traffic signals, variable message signs, lane-use management systems, cameras and environmental sensors. Its Intelligent Transport Systems Master Plan 2024–2030 identifies six priorities, including improving regional resilience and preparing for emerging vehicle technologies.[4]

Connectivity is becoming increasingly important to road-network management. Roadside assets transmit information to control centres using fibre, mobile and satellite services, helping Main Roads monitor conditions, manage traffic and respond to incidents. As more sensors, cameras and connected devices are deployed, and as Cooperative Intelligent Transport Systems (C-ITS) extend communications from roadside infrastructure into vehicles, the volume, speed and criticality of these data flows will increase.

Connected infrastructure can deliver meaningful safety benefits. Main Roads WA tested C-ITS in Perth in February 2025 with Kapsch TrafficCom, with results indicating the trial showed both the technology and the State's road infrastructure were ready for deployment across WA's 128,000-kilometre road network. Applications identified include school zone warnings, road works alerts, weather and obstacle detection, and warnings for vulnerable road users, each of which requires the roadside unit to be reachable at the moment the hazard exists. Comparable deployments have been credited with reducing fatalities and serious injuries by up to 20%.[5] Benefits of that order depend on messages reaching the vehicle inside a latency tolerance that only fibre or mobile backhaul to the roadside can meet.

3. Geoscience Australia (2014) *Area of Australia: States and Territories.* Available here.
4. Main Roads WA (2023) *Intelligent Transport Systems Master Plan 2024-2030.* Available here.
5. Kapsch TrafficCom (2025) *Main Roads WA tests connected vehicle technology to increase road safety.* Available here.

This opportunity is particularly important in regional WA. In 2024, 114 of the State's 188 road fatalities occurred outside metropolitan Perth, compared with 74 within the metropolitan area.[6] Connected infrastructure can support earlier hazard warnings, faster identification of incidents and more effective responses to changing road and weather conditions.

Freight operators could also benefit. International modelling indicates that traffic-signal priority for connected heavy vehicles could reduce truck delays at intersections by between 10% and 70%, depending on traffic and network conditions, while having limited effects on other road users.[7] During the Kimberley floods, some road trains were diverted an additional 4,500 kilometres, roughly doubling freight rates.[6] Real-time monitoring of water levels, road conditions and closures can support faster responses and safer disruption management.

These systems rely on mobile, fibre and satellite services connecting roadside assets to control centres. Existing Telstra infrastructure already supports Main Roads, and these requirements are not Aura-specific. However, Aura could complement existing services through greater long-haul capacity and route diversity between WA and the eastern states. Alongside adequate local coverage, power and systems integration, a stronger backbone could help Main Roads scale intelligent transport systems and improve network safety, efficiency and resilience.

6. Zlatkovic, M., Ahmed, M., Cvijovic, Z. and Bashir, S. (2021) *Connected-Autonomous Traffic Signal Control Algorithms for Trucks and Fleet Vehicles. Wyoming Department of Transportation.* Available here.
7. ABC News (2023) *Kimberley businesses facing steep freight hikes as road trains forced to travel extra 4,500 kilometres for deliveries.* Available here.

About this Industry Spotlight

This Industry Spotlight draws on independent analysis by Oxford Economics Australia for *Australia's Western Gateway*. The report examines the size and potential growth of Western Australia's digital economy to FY2040, including digital activity embedded across established industries. It also assesses how additional network capacity and resilience could support technology adoption, productivity and economic activity. Read the full report for the complete analysis and methodology.

Download the report

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telstraenquiry@team.telstra.com

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