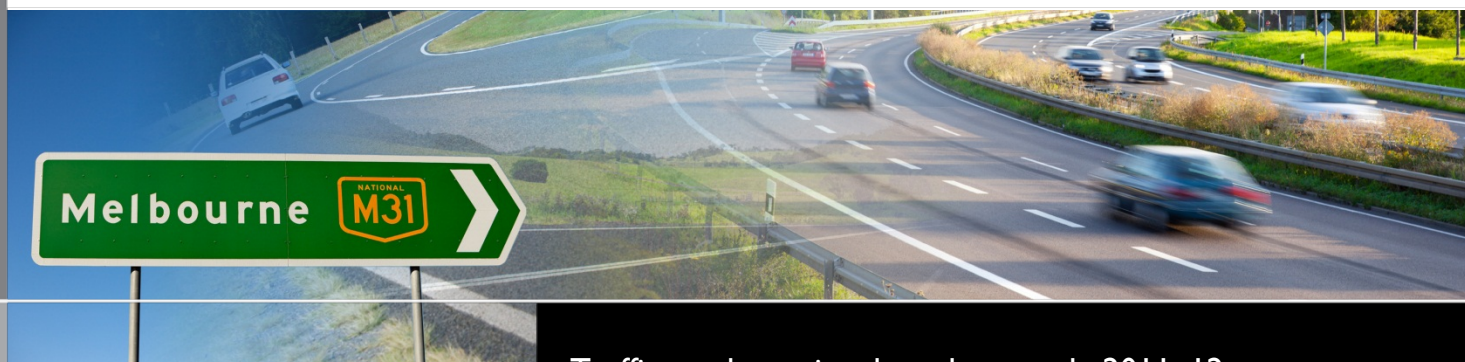




Australian Government

Department of Infrastructure and Regional Development

Bureau of Infrastructure, Transport and Regional Economics



Traffic on the national road network, 2011–12

At a glance

- This Information Sheet presents recent road traffic volumes across the Australian National Land Transport Network—the integrated network of land transport linkages of strategic national importance.
- The busiest intercapital corridor on the network is the Pacific Highway/Motorway, between Sydney and Brisbane, with average traffic volumes of 28 600 vehicles per day in 2011–12. This corridor links many large regional centres, which contribute significantly to overall average corridor traffic volumes. Notably, average traffic volumes are not less than 10 000 vehicles per day across any part of the corridor. (*Corridor-average traffic volume* estimates reported herein are calculated as the length-weighted average of traffic across all segments of each corridor.)
- The Sydney–Melbourne corridor, comprising the Hume Highway/Freeway, is the second most heavily trafficked intercapital corridor on the national network, with average traffic volumes of 16 700 vehicles per day in 2011–12.
- These two corridors also have the highest volume of heavy vehicles of any intercapital corridor—heavy vehicle volumes on the Sydney–Melbourne corridor averaged approximately 4 200 heavy vehicles per day in 2011–12, and on the Pacific Highway/Motorway 3 600 heavy vehicles per day.
- The least trafficked intercapital corridor, in average traffic volume terms, is the Perth–Darwin corridor, with average traffic volumes of 680 vehicles per day in 2011–12.
- The busiest intrastate corridor is the Princes Highway between Sydney and Wollongong, which had average traffic volumes of over 43 000 vehicles per day in 2011–12.
- Other notable features include:
 - Average traffic volumes are highest on the outskirts of metropolitan areas, often several multiples higher than traffic in rural/regional areas.
 - Average traffic volumes on rural sections between proximate regional population centres (e.g. between Orange and Bathurst, Tailem Bend and Murray Bridge and Cloncurry and Mt Isa) are typically higher than on the adjacent sections.
 - Traffic volumes on bypasses are typically lower than on adjacent sections, reflecting use of the corridor for access to regional population centres.
- The traffic counts imply vehicle use across the non-urban NLTN corridors totalled approximately 45.4 billion vehicle kilometres in 2011–12—light vehicles comprising 37.9 billion vehicle kilometres and heavy vehicles 7.5 billion vehicle kilometres. This is equivalent to 19.5 per cent of total vehicle kilometres travelled (by all registered motor vehicles) across Australia in 2011–12, with light vehicle use equivalent to 18 per cent of total light vehicle travel across Australia and heavy vehicles approximately 39 per cent of total heavy vehicle use in Australia.

Introduction

The National Land Transport Network (NLTN) is a single, integrated network of land transport linkages of strategic national importance, which is funded by Federal, State and Territory Governments (DIRD 2014). It includes national and inter-regional transport corridors, including connections through urban areas and links to ports, airports, and rail and road terminals, that together are of critical importance to national and regional economic growth, development and connectivity.¹ The NLTN comprises 11 separate interstate corridors connecting capital cities and, depending on definition, 10 intrastate corridors generally linking state capital and regional population centres. Together these 21 corridors are designated the 'non-urban' corridors. In addition, the NLTN includes urban connections to ports and major transport hubs in each of the five mainland capital cities.

This Information Sheet presents recent (2011–12) traffic volumes for the non-urban corridors of the NLTN. The traffic volumes are presented in terms of average annual daily traffic (AADT)—equal to total annual traffic divided by the number of days per year. This measure abstracts from daily and seasonal variations in traffic—for example, average total hourly traffic volumes are typically higher during daylight hours than at night time and average daily traffic volumes are significantly higher on parts of the non-urban network during peak holiday periods (e.g. Easter and Christmas) than at other times. Light and heavy vehicle traffic volumes are separately enumerated. (Heavy vehicles are defined as vehicles with a gross vehicle mass of 4.5 tonnes and above, typically rigid and articulated trucks and buses.)

The data presented in this Information Sheet are based on traffic volume estimates provided by state and territory government road agencies, which, in turn, are based on traffic counts measured at various points along the road network. Traffic count data variously includes a mix of permanent and temporary count sites, providing a mix of fully enumerated and partial survey count information, the latter scaled to full-year equivalent estimates. However, traffic counts are not collected at all sites every year. Where this is the case, traffic volumes are based either on previous traffic count information or (count-based) modelled estimates.²

Corridor traffic volumes

Figure 1 shows average daily total traffic volumes across the NLTN network in 2011–12 and Table 1 presents estimates of average traffic volumes across each of the NLTN corridors in 2011–12.³

The estimates show that the Pacific Highway/Motorway, between Sydney and Brisbane, is the busiest intercapital corridor on the network, with average traffic volumes of approximately 28 600 vehicles per day in 2011–12. This corridor also connects many large regional centres in northern New South Wales, and traffic within and surrounding these centres contribute significantly to overall average corridor traffic volumes. Average traffic volumes across the non-urban parts of the corridor were around 17 761 vehicles per day in 2011–12.

The Sydney–Melbourne corridor, comprising the Hume Highway/Freeway, is the second most heavily trafficked intercapital corridor on the national network, with average traffic volumes of 16 700 vehicles per day in 2011–12. The Sydney–Melbourne corridor also has the highest average volume of heavy vehicles of all intercapital corridors, with approximately 4200 heavy vehicles per day in 2011–12—approximately 25 per cent of all vehicles on the corridor. (The Pacific Highway/Motorway has the second highest, with 3600 heavy vehicles per day in 2011–12—equivalent to 12.7 per cent of all vehicles across the corridor in that year.)

Average daily traffic volumes on the Sydney–Brisbane (inland), Melbourne–Adelaide and Melbourne–Brisbane corridors were around 13 900, 9100 and 5200 vehicles per day, respectively, in 2011–12. Heavy vehicle traffic volumes averaged around 14 per cent of all vehicles on the Sydney–Brisbane (inland) corridor, 21 per

¹ The National Land Transport Network used here is that defined in *AusLink (National Land Transport) Act National Land Transport Network Determination 2005* (URL: www.comlaw.gov.au/Details/F2009C00116. Accessed: May 2014).

² Publicly available traffic count data can be found at: www.rms.nsw.gov.au/publicationsstatisticsforms/trafficvolumes/index.html, www.vicroads.vic.gov.au/Home/Moreinfoandservices/RoadManagementAndDesign/RoadUseAndPerformance/ArterialRoadTrafficVolumes.htm, <https://data.qld.gov.au/dataset/traffic-census-for-the-queensland-state-declared-road-network>, www.mainroads.wa.gov.au/OurRoads/Facts/TrafficData/Pages/default.aspx, http://dpti.sa.gov.au/traffic_volumes.

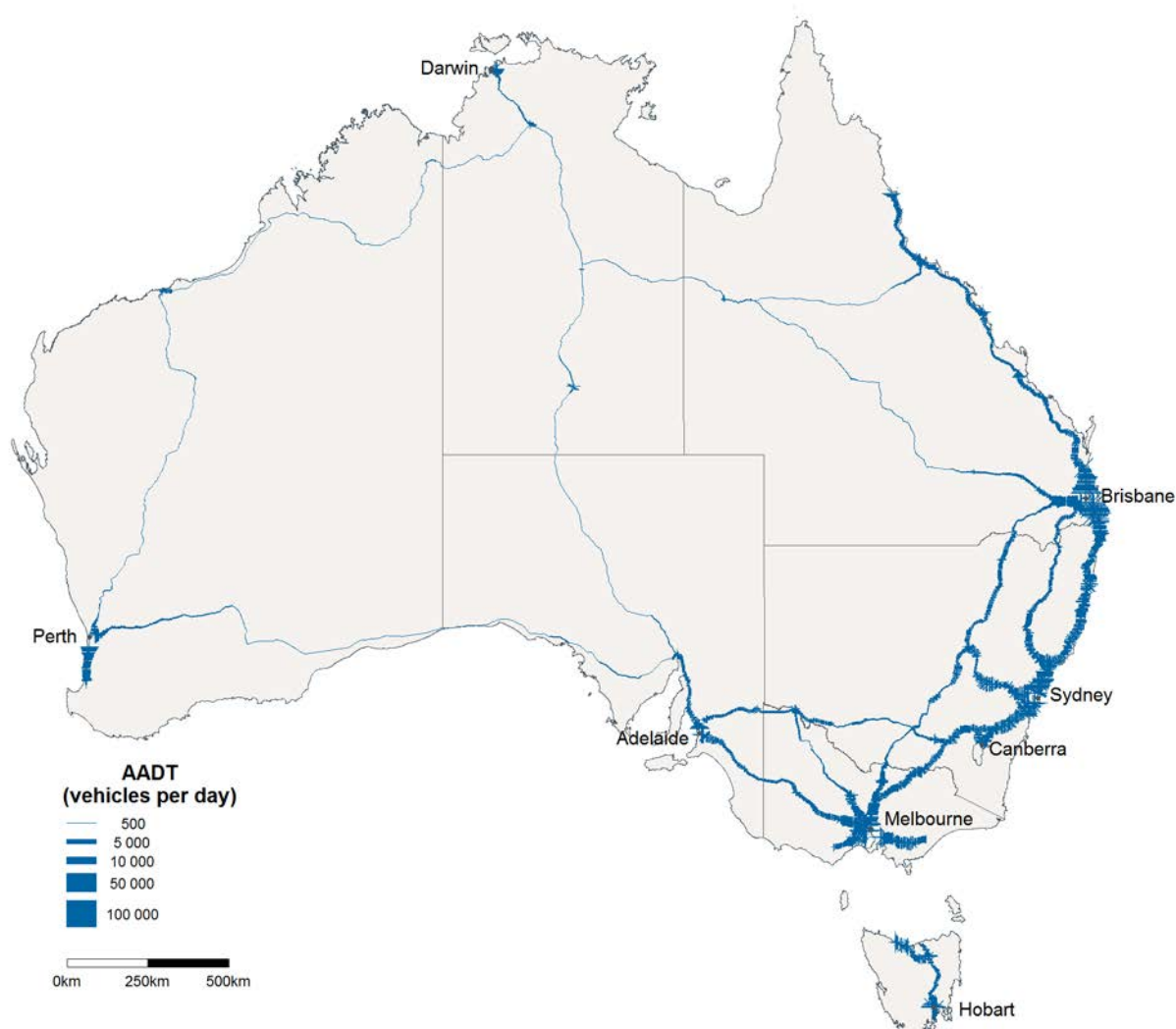
³ Corridor-average traffic volumes presented herein are equal to the length-weighted average of traffic across all segments of the corridor.

cent of all vehicles on the Melbourne–Adelaide corridor and 27 per cent of all vehicles on the Melbourne–Brisbane corridor in 2011–12.

The least trafficked intercapital corridors, in average traffic volume terms, include the Brisbane–Darwin corridor—which extends from Toowoomba (Queensland) to the intersection of the Barkly and Stuart Highways (at Three Ways, Northern Territory)—with average traffic volumes of approximately 1 000 vehicles per day in 2011–12, the Perth–Darwin corridor, with average total traffic volumes of 680 vehicles per day in 2011–12, the Perth–Adelaide corridor, with average traffic volumes of approximately 1 700 vehicles per day in 2011–12, and the Adelaide (Port Augusta)–Darwin corridor—which extends from Port Augusta to Darwin—with average traffic volumes of 860 vehicles per day in 2011–12. Heavy vehicles comprised around 29 per cent of vehicles on the Perth–Darwin corridor in 2011–12, almost 25 per cent of all vehicles on the Brisbane–Darwin corridor, 24 per cent of all vehicles on the Perth–Adelaide corridor, and 20 per cent of vehicles on the Adelaide (Port Augusta)–Darwin corridor.

The busiest intrastate corridor is the Princes Highway between Sydney and Wollongong, which had average traffic volumes of over 43 000 vehicles per day in 2011–12. Traffic volumes on urban sections account for around half of all traffic on the corridor, while heavy vehicles comprise less than 10 per cent of total traffic. Average traffic volumes on most other intrastate corridors are also relatively high, principally due to traffic volumes on road sections on the periphery of state capitals. The notable exception is the ‘more remotely located’ Townsville–Mt Isa corridor—which comprises the Flinders Highway between its intersections with the Bruce Highway near Townsville and the Landsborough Highway near Cloncurry—where average traffic volumes are less than 1 000 vehicles per day.

Figure 1: Average daily total traffic volumes on the national network, 2011–12



Source: Traffic counts provided by state and territory road agencies.

Table 1: Average traffic volumes on non-urban national network corridors, 2011–12

Corridor	Roads	Average AADT			Average non-urban AADT ^a		
		Light vehicles	Heavy vehicles	All vehicles	Light vehicles	Heavy vehicles	All vehicles
Interstate corridors							
Sydney–Melbourne	Hume Highway, Hume Freeway	12 540	4 170	16 710	10 796	3 955	14 751
Sydney–Brisbane (inland)	M1 (F3), John Renshaw Drive, Weakleys Drive, New England Highway, Cunningham Highway	11 944	1 928	13 872	10 365	1 758	12 123
Sydney–Brisbane (coastal)	Pacific Highway, Pacific Motorway	25 000	3 644	28 643	14 853	2 908	17 761
Sydney–Adelaide	Sturt Highway (incl. Gawler Bypass)	2 397	676	3 072	2 011	613	2 624
Canberra Connectors	Federal Highway, Barton Highway	13 822	1 351	15 173	13 264	1 418	14 682
Melbourne–Brisbane	Goulburn Valley Highway, Newell Highway, Leichhardt Highway, Gore Highway, Warrego Highway	3 803	1 383	5 186	3 114	1 328	4 442
Melbourne–Adelaide	Western Freeway/Highway, Dukes Highway, Princes Highway, South-East Freeway	7 236	1 889	9 126	6 170	1 805	7 975
Brisbane–Darwin	Warrego Highway, Landsborough Highway, Flinders Highway, Barkly Highway	753	247	1 000	642	230	872
Perth–Adelaide	Great Eastern Highway, Coolgardie–Esperance Highway, Eyre Highway, Princes Highway	1 257	407	1 664	965	364	1 330
Adelaide (Port Augusta)–Darwin	Stuart Highway, Berrimah Road	681	174	855	542	154	696
Perth–Darwin	Great Northern Highway, Victoria Highway	483	198	681	437	186	623
Intrastate corridors							
Sydney–Wollongong	Princes Highway, Southern Freeway (F6), Mt Ousley Road	39 437	3 617	43 055	31 730	3 605	35 335
Sydney–Dubbo	Western Motorway (M4), Great Western Highway, Mitchell Highway	16 647	1 452	18 099	12 977	1 127	14 104
Melbourne–Sale	Princes Freeway/Highway	18 894	2 918	21 812	15 683	2 608	18 291
Melbourne–Colac	Princes Freeway/Highway	28 047	3 727	31 774	19 529	2 769	22 298
Melbourne–Mildura	Calder Highway	6 177	902	7 079	4 228	789	5 018
Brisbane–Cairns	Bruce Highway	7 640	1 365	9 005	5 365	1 175	6 540
Townsville–Mt Isa	Flinders Highway	633	195	828	621	192	813
Perth–Bunbury	Forrest Highway, Mandurah Road, Perth–Bunbury Highway, Australind Bypass	14 423	1 695	16 118	11 441	1 411	12 852
Hobart–Burnie	Tasman Highway, Brooker Highway, Midland Highway, Bass Highway	15 124	1 736	16 860	6 983	1 207	8 190
Launceston–Bell Bay	East Tamar Highway	11 443	1 255	12 698	3 775	673	4 448
All corridors		4 842	961	5 804	3 232	794	4 025

.. Not applicable.

a. Non-urban average traffic volume estimates include only traffic on those sections of the NLTN outside of Urban Centres and Localities (ABS 2012).

Source: Traffic volume data supplied by state and territory road authorities.

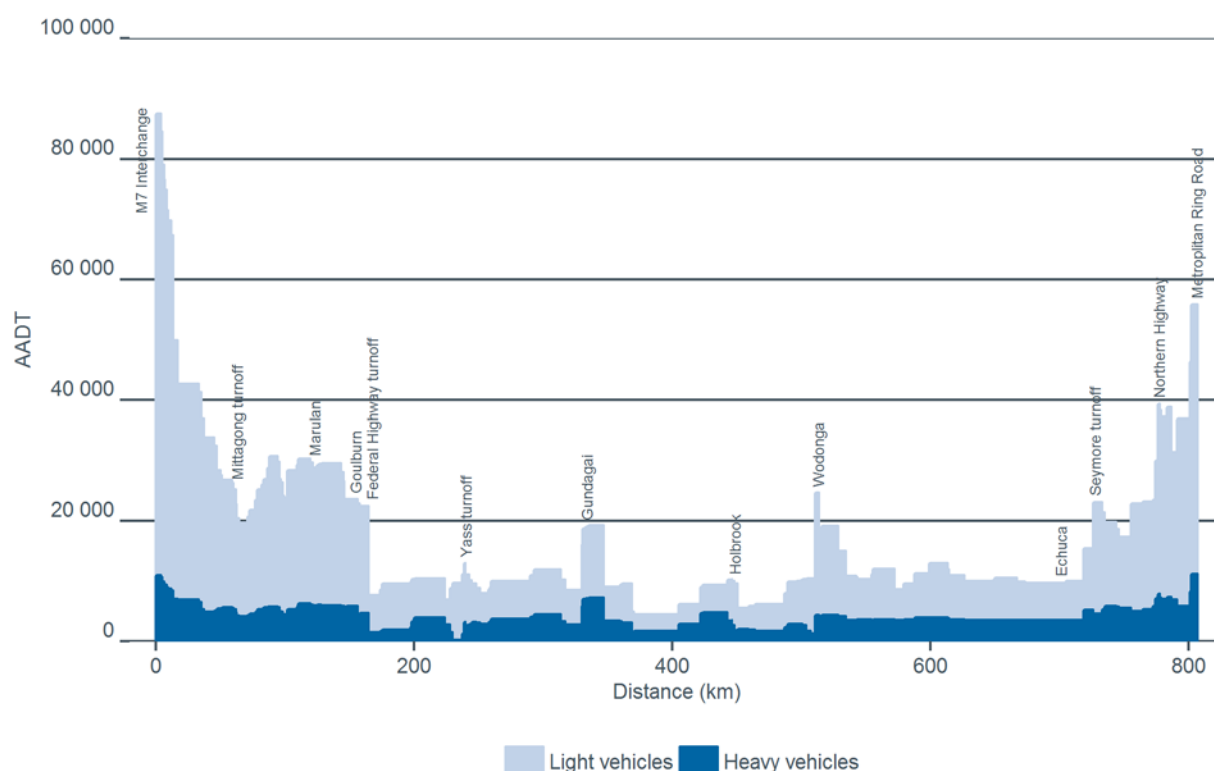
Detailed corridor traffic volumes

Figures 2 to 21 show detailed light, heavy and total traffic volumes, in 2011–12, across each intercapital and interstate corridor of the NLTN. Several notable features are readily apparent:

- Average traffic volumes are highest on the outskirts of metropolitan areas, often several multiples higher than traffic in rural and regional areas.
- Average traffic volumes on rural sections between closely-proximate regional population centres are often higher than on surrounding sections. Notable examples of this include between Orange and Bathurst (Sydney–Dubbo corridor) and between Tailem Bend and Murray Bridge (Melbourne–Adelaide corridor).
- Traffic volumes on town bypasses are typically lower than on adjacent sections, reflecting use of the corridor for access to regional population centres. Conversely, traffic volumes are higher on sections either located within or surrounding rural towns where there is no bypass.
- Light vehicle traffic volumes generally exhibit more variation than heavy vehicle volumes across most NLTN corridors, largely due to significantly higher light vehicles traffic volumes on sections near capital cities and major regional population centres.

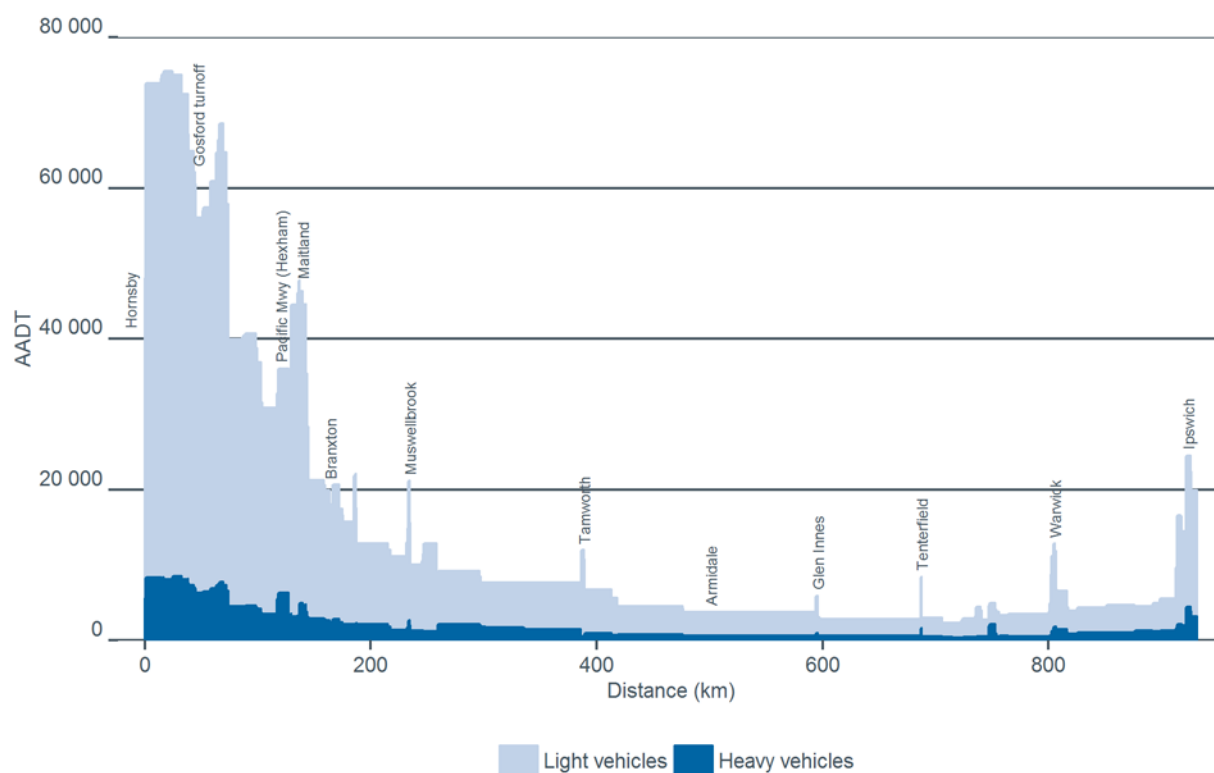
The low traffic volume point on each corridor provides an upper bound on the average daily end-to-end traffic (i.e. vehicles travelling the entire length of the corridor). The low traffic volume point on the Sydney–Melbourne corridor, for example, occurs in southern New South Wales, south of the Sturt Highway. Average traffic volumes at this point were around 4400 vehicles per day at this point in 2011–12—including 1700 heavy vehicles per day.

Figure 2: Sydney–Melbourne corridor average daily traffic volumes, 2011–12



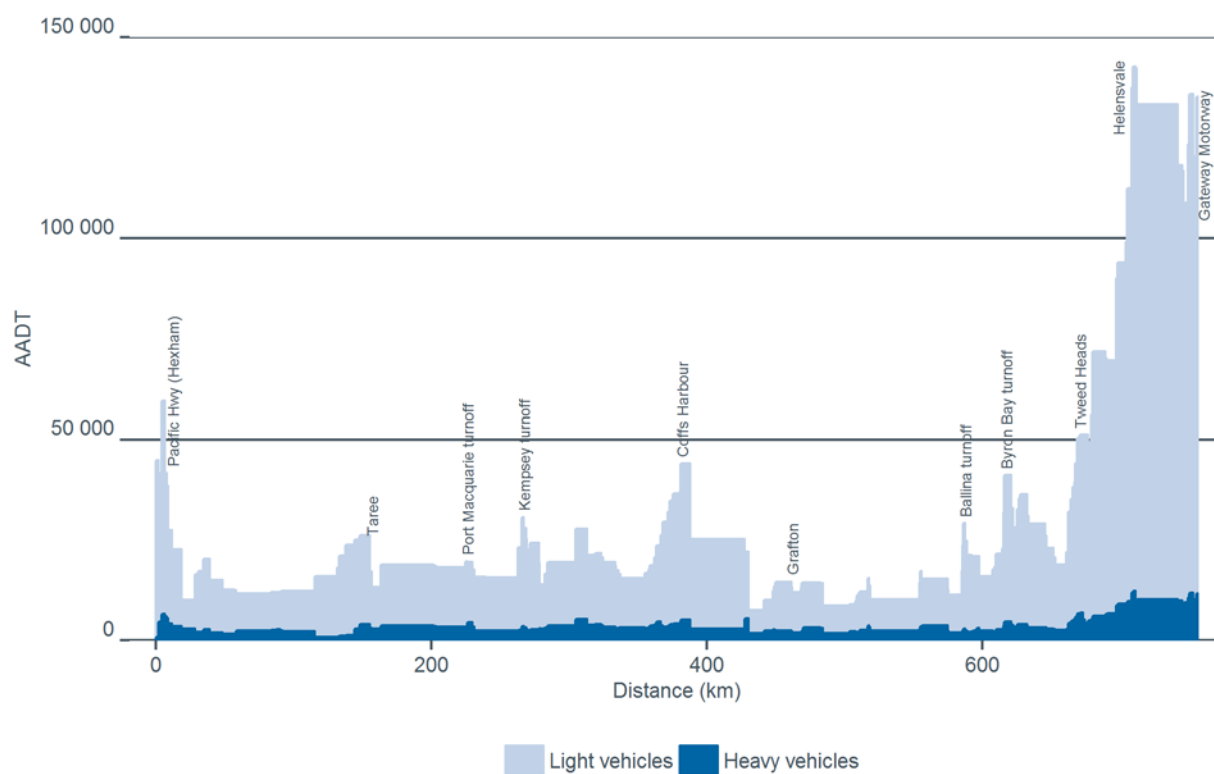
Source: Traffic counts provided by Roads and Maritime Services, New South Wales, and VicRoads.

Figure 3: Sydney–Brisbane corridor average daily traffic volumes, 2011–12



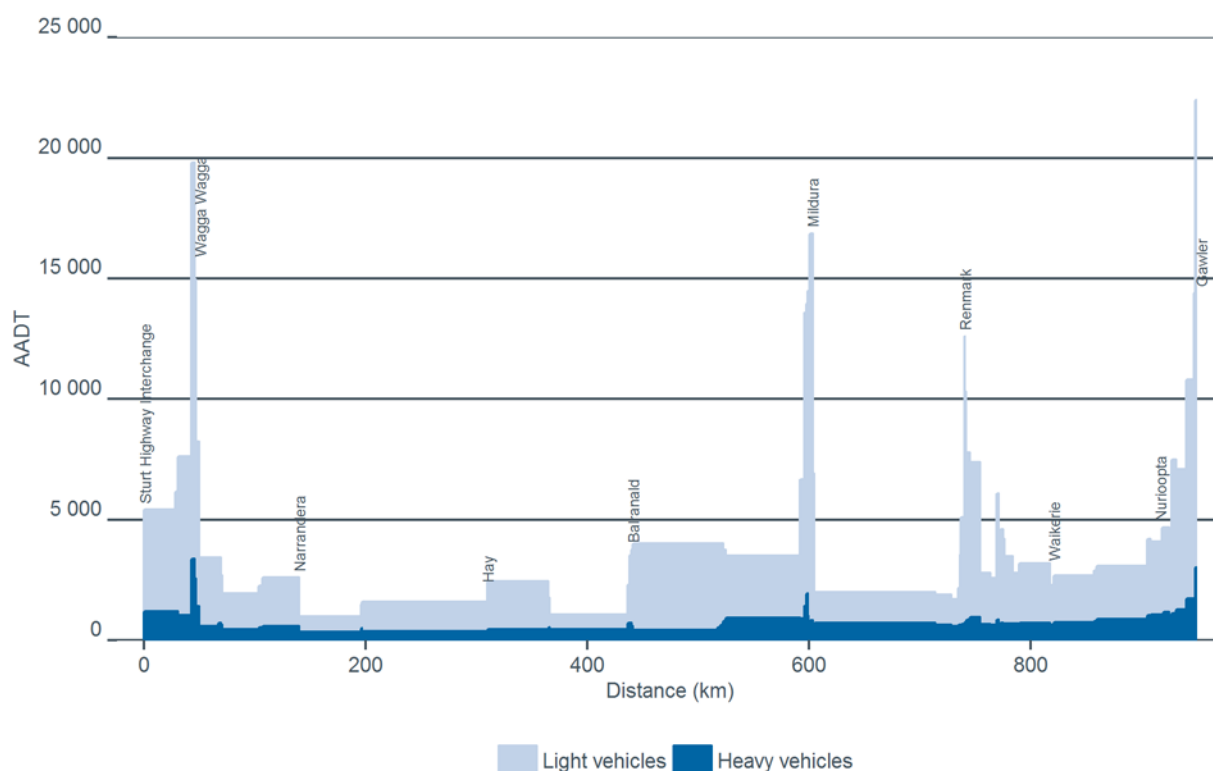
Source: Traffic counts provided by Roads and Maritime Services, New South Wales, and the Queensland Department of Transport and Main Roads.

Figure 4: Sydney–Brisbane (coastal) corridor average daily traffic volumes, 2011–12



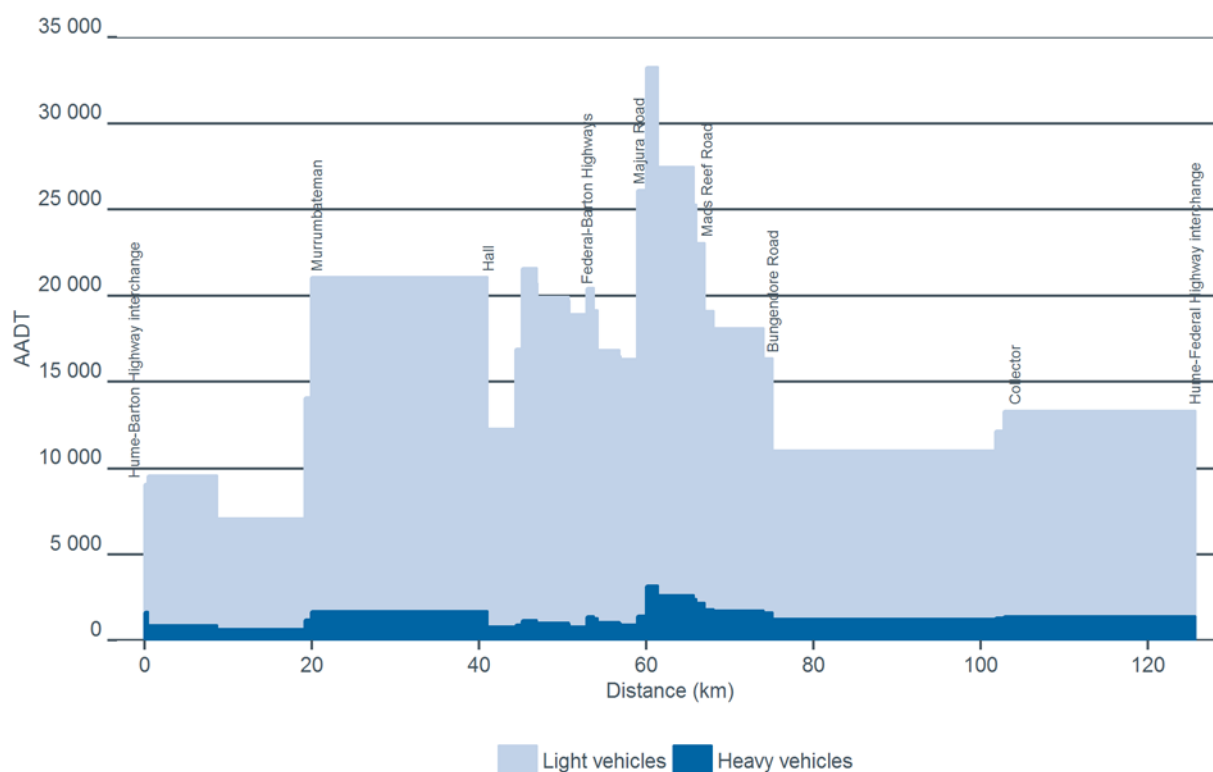
Source: Traffic counts provided by Roads and Maritime Services, New South Wales, and the Queensland Department of Transport and Main Roads.

Figure 5: Sydney–Adelaide corridor average daily traffic volumes, 2011–12



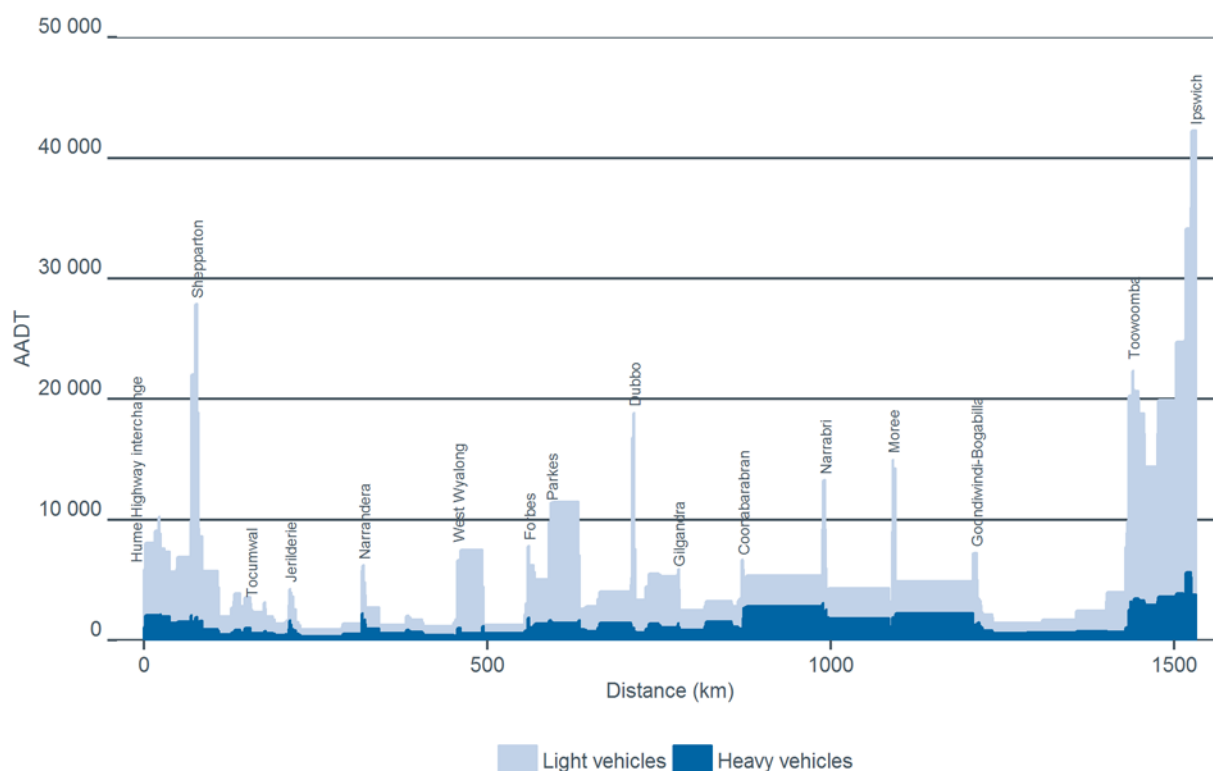
Source: Traffic counts provided by Roads and Maritime Services, New South Wales, VicRoads and the South Australian Department of Planning, Transport & Infrastructure.

Figure 6: Canberra connectors average daily traffic volumes, 2011–12



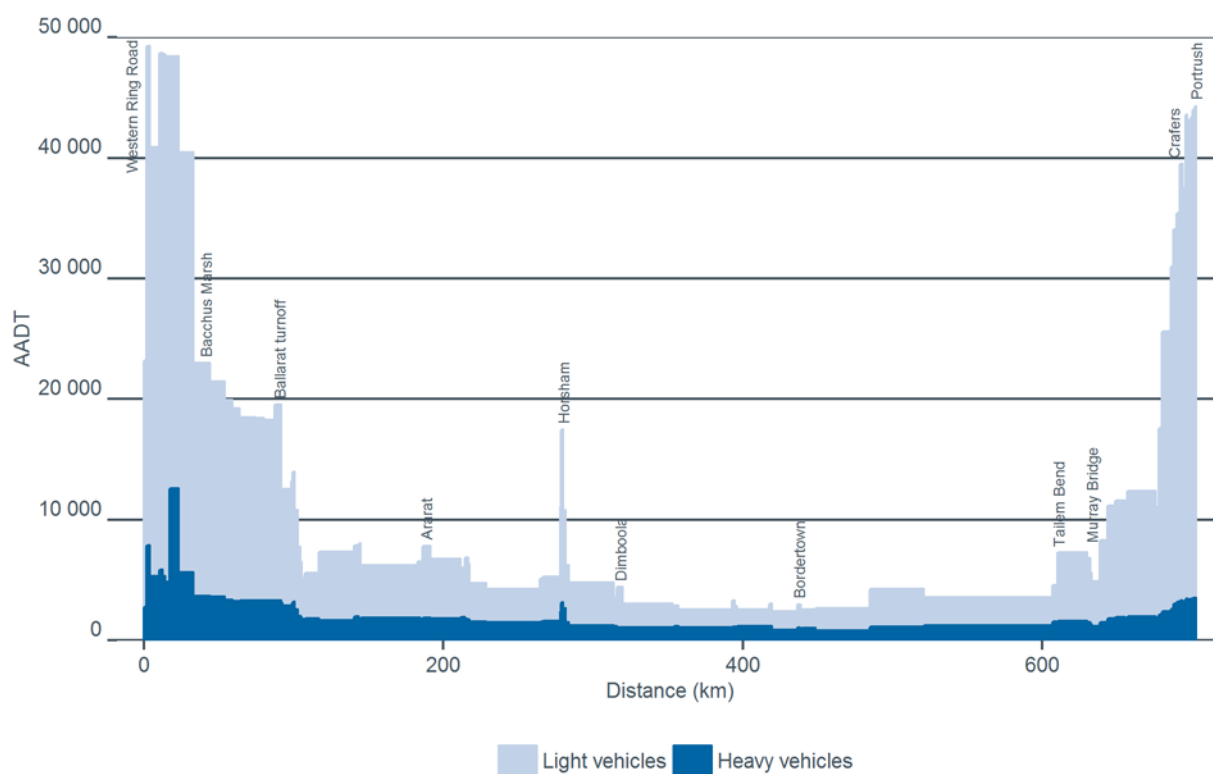
Source: Traffic counts provided by Roads and Maritime Services, New South Wales, and Roads ACT.

Figure 7: Melbourne–Brisbane corridor average daily traffic volumes, 2011–12



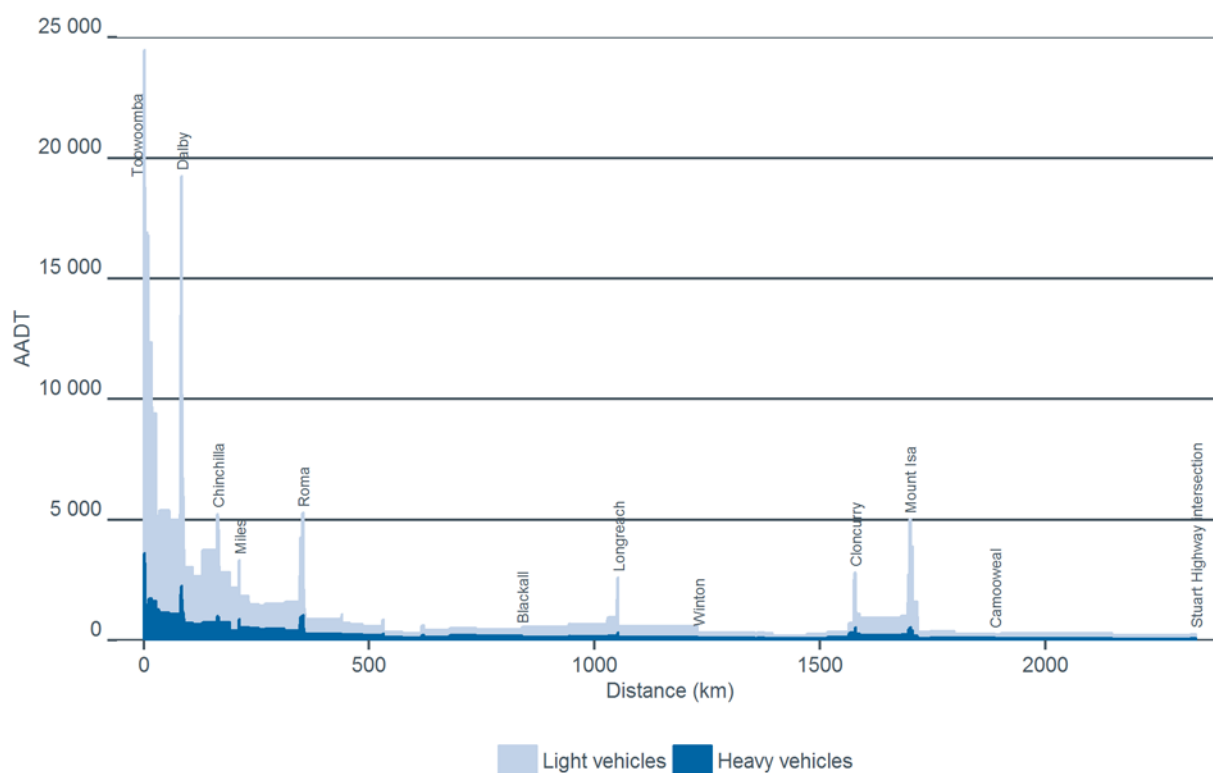
Source: Traffic counts provided by Roads and Maritime Services, New South Wales, VicRoads and the Queensland Department of Transport and Main Roads.

Figure 8: Melbourne–Adelaide corridor average daily traffic volumes, 2011–12



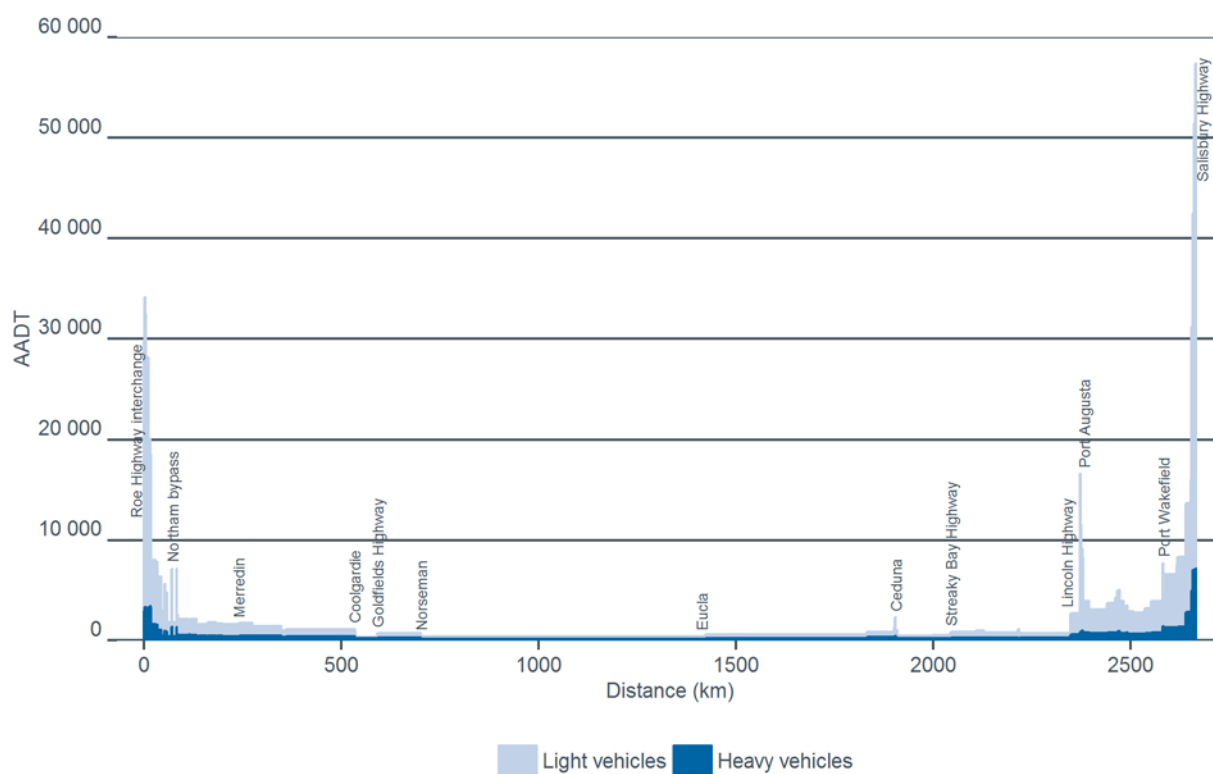
Source: Traffic counts provided by VicRoads and the South Australian Department of Planning, Transport & Infrastructure.

Figure 9: Brisbane–Darwin corridor average daily traffic volumes, 2011–12



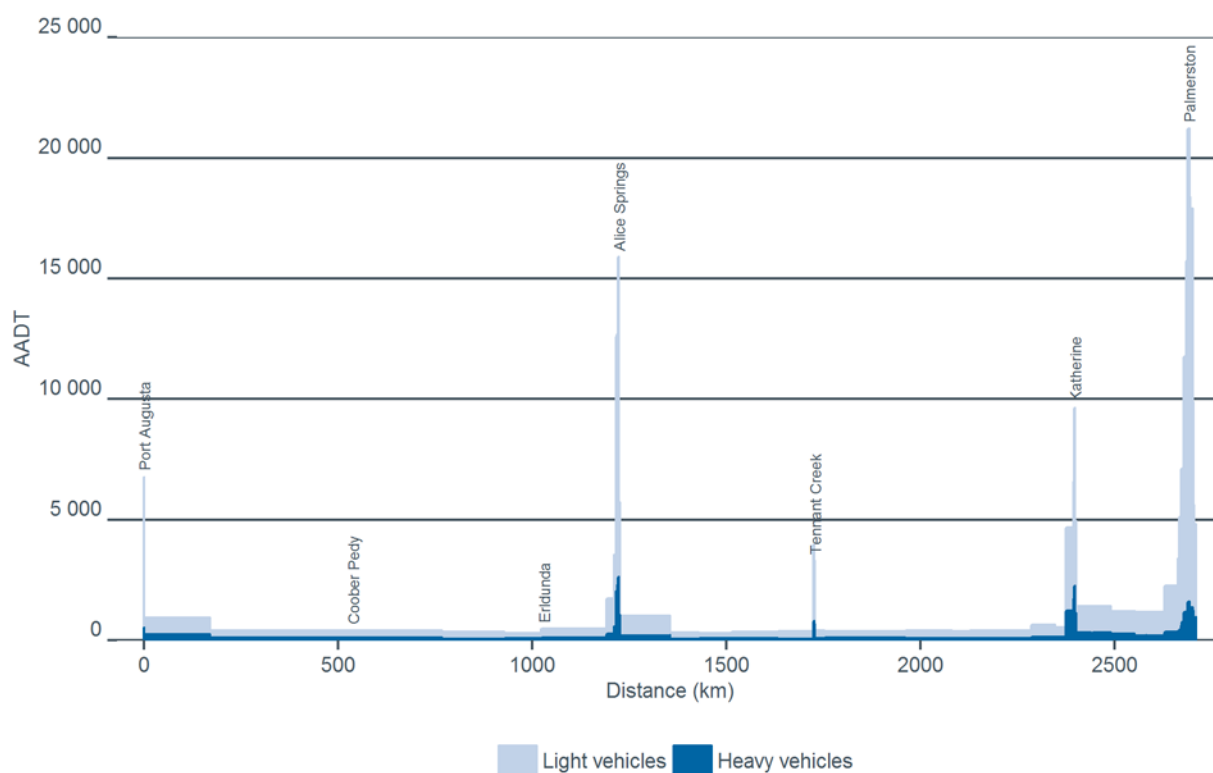
Source: Traffic counts provided by the Queensland Department of Transport and Main Roads and the Northern Territory Department of Transport.

Figure 10: Perth–Adelaide corridor average daily traffic volumes, 2011–12



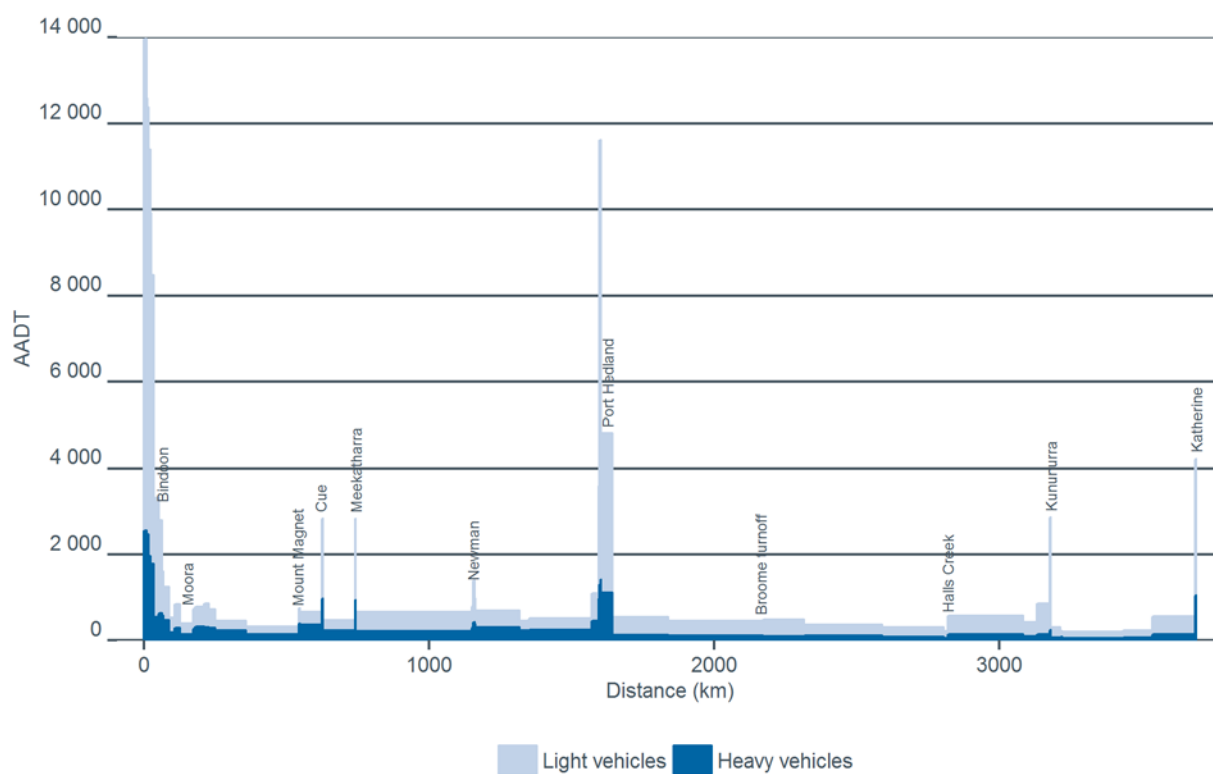
Source: Traffic counts provided by the South Australian Department of Planning, Transport & Infrastructure and Main Roads Western Australia.

Figure 11: Adelaide (Port Augusta)–Darwin corridor average daily traffic volumes, 2011–12



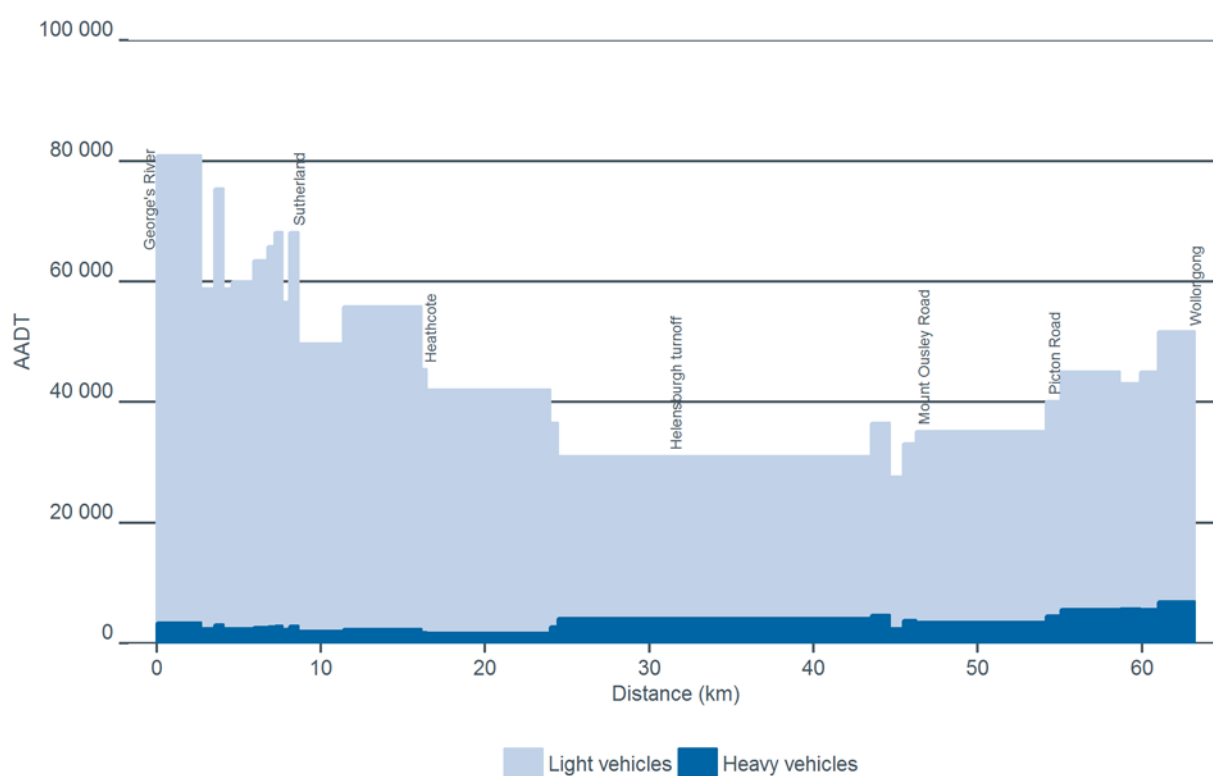
Source: Traffic counts provided by the South Australian Department of Planning, Transport & Infrastructure and the Northern Territory Department of Transport.

Figure 12: Perth–Darwin corridor average daily traffic volumes, 2011–12



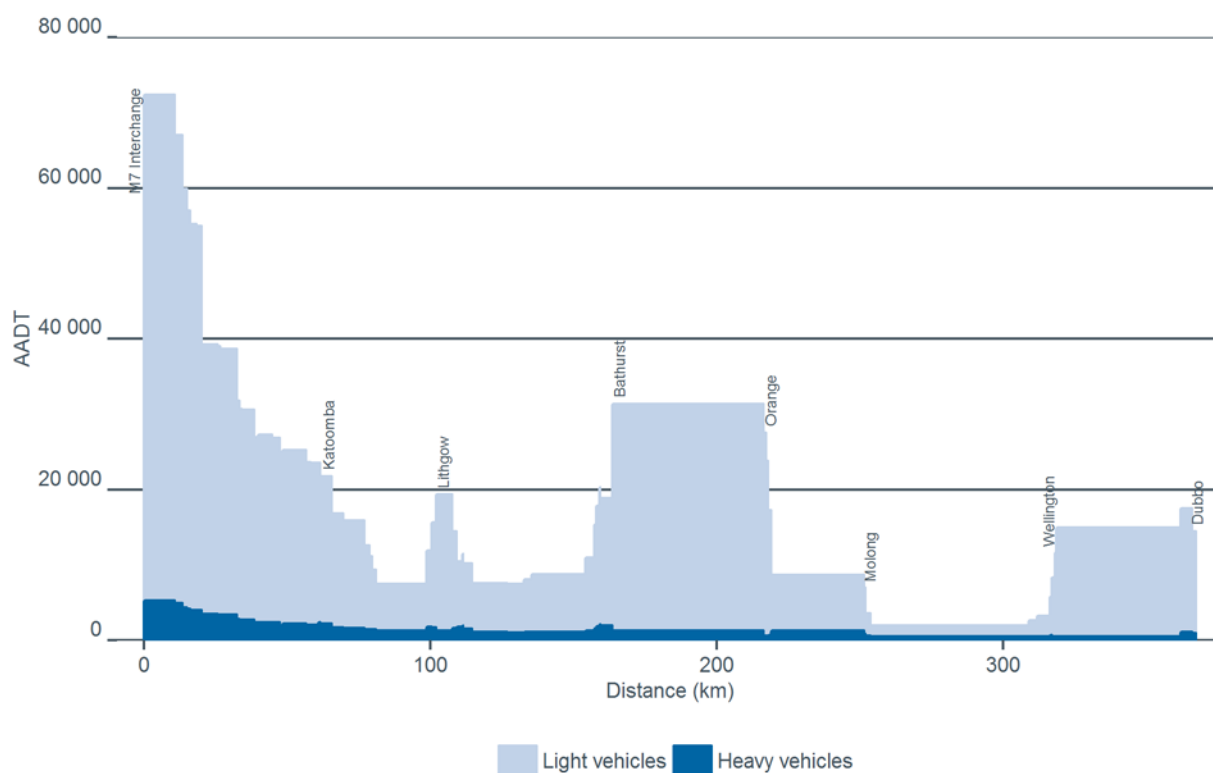
Source: Traffic counts provided by the Main Roads Western Australia and the Northern Territory Department of Transport.

Figure 13: Sydney–Wollongong corridor average daily traffic volumes, 2011–12



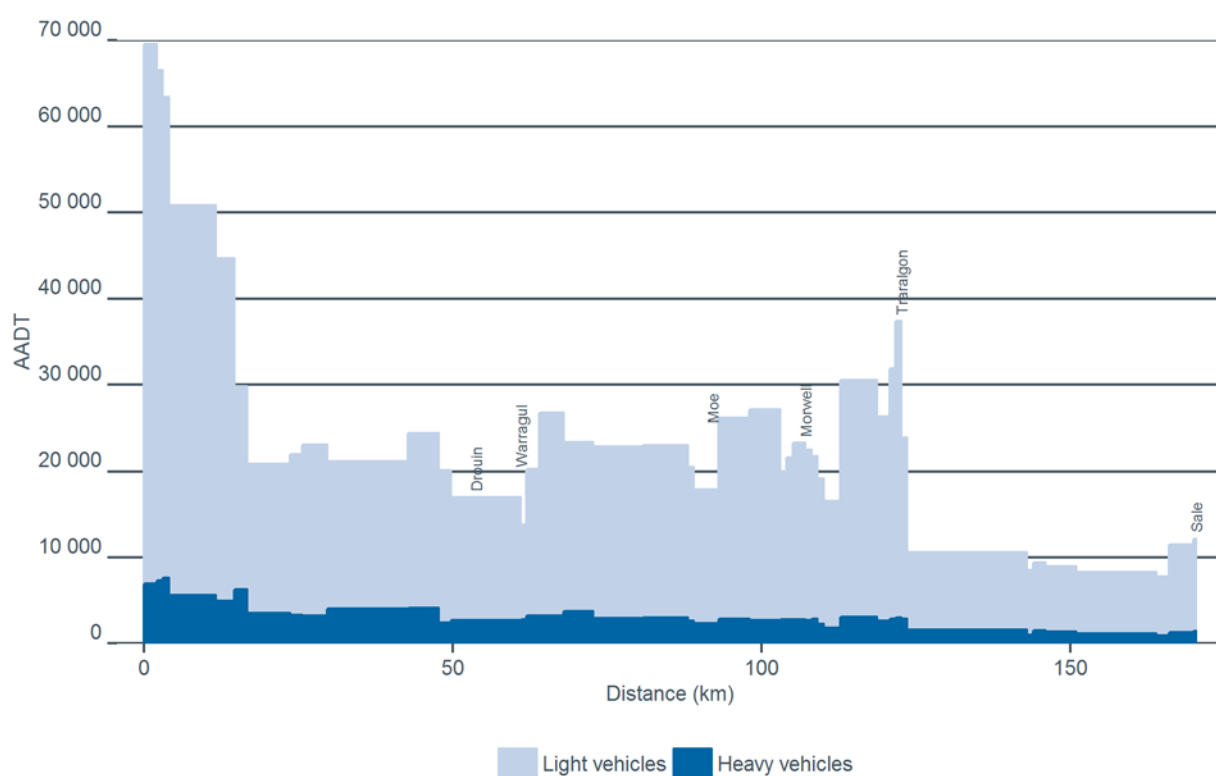
Source: Traffic counts provided by Roads and Maritime Services, New South Wales.

Figure 14: Sydney–Dubbo corridor average daily traffic volumes, 2011–12



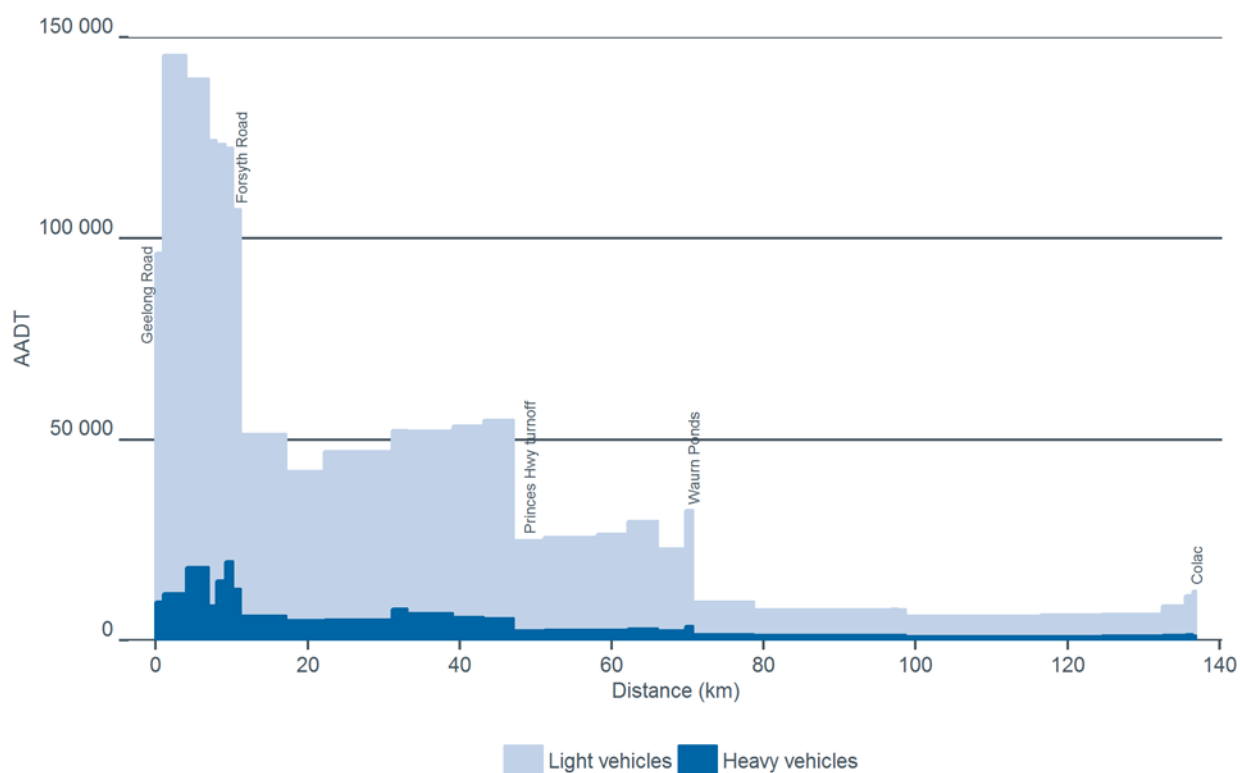
Source: Traffic counts provided by Roads and Maritime Services, New South Wales.

Figure 15: Melbourne–Sale corridor average daily traffic volumes, 2011–12



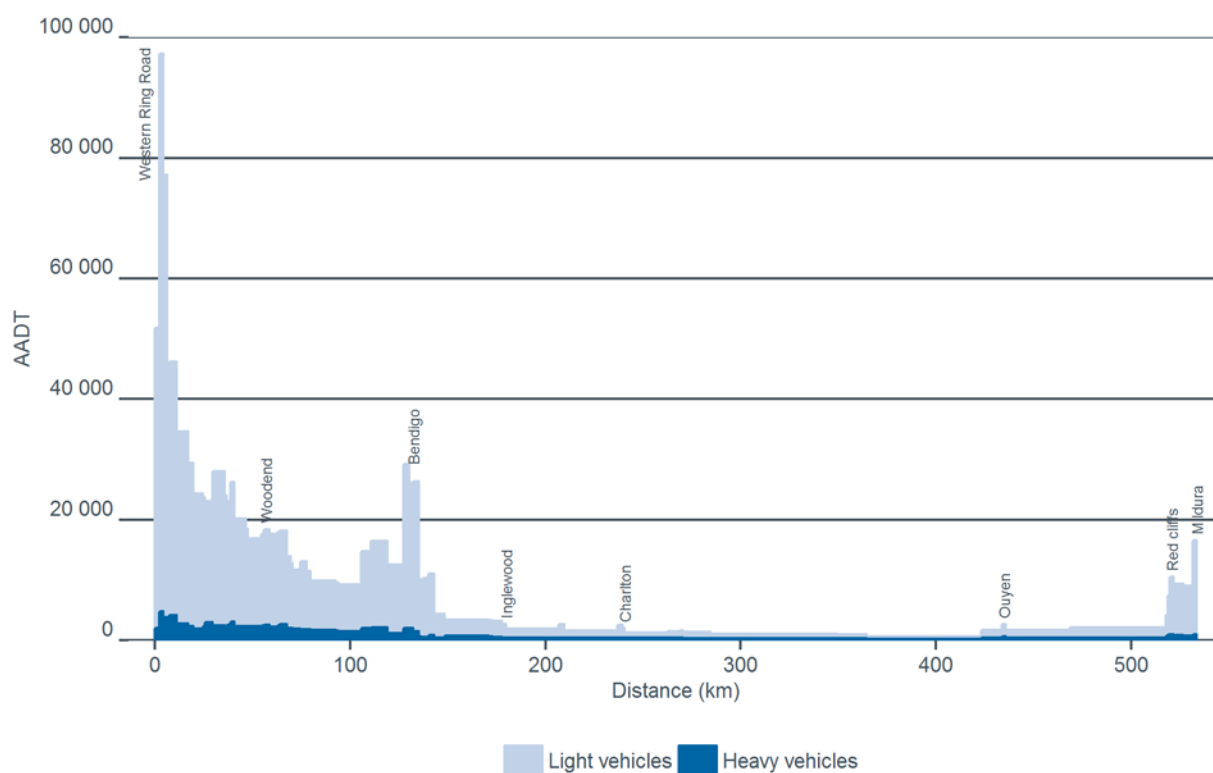
Source: Traffic counts provided by VicRoads.

Figure 16: Melbourne–Colac corridor average daily traffic volumes, 2011–12



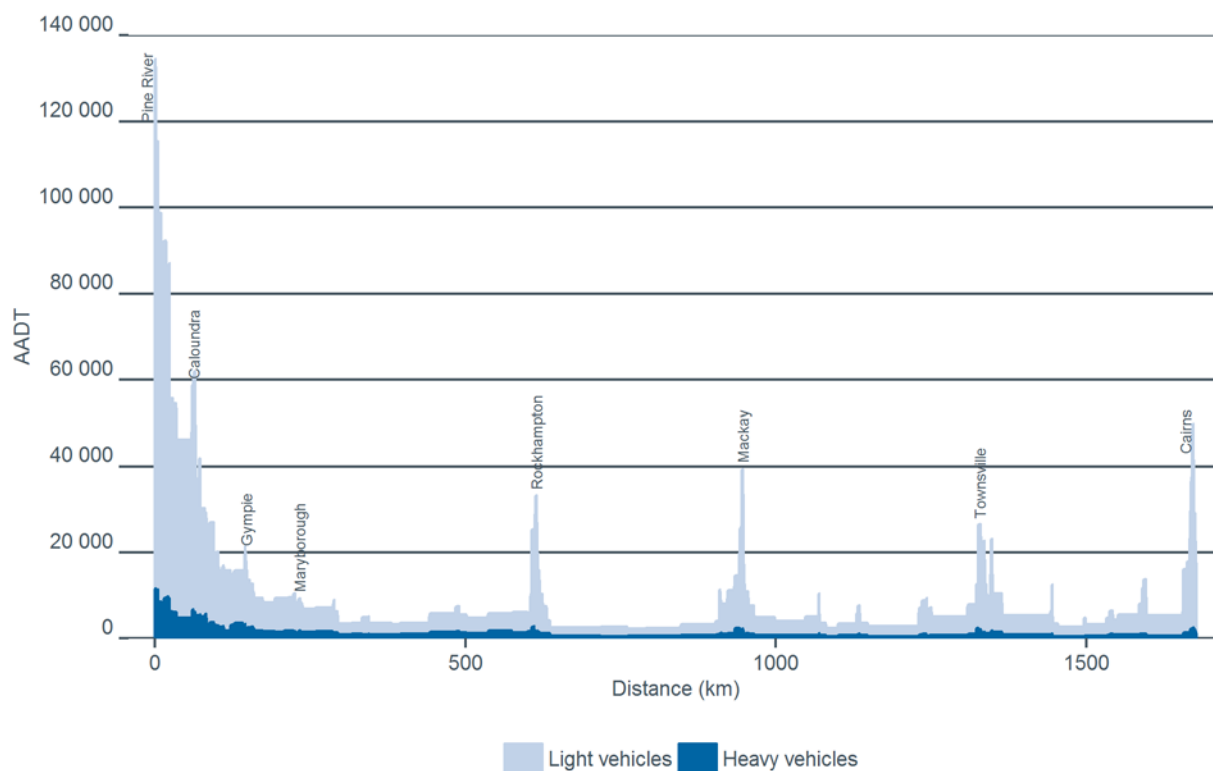
Source: Traffic counts provided by VicRoads.

Figure 17: Melbourne–Mildura corridor average daily traffic volumes, 2011–12



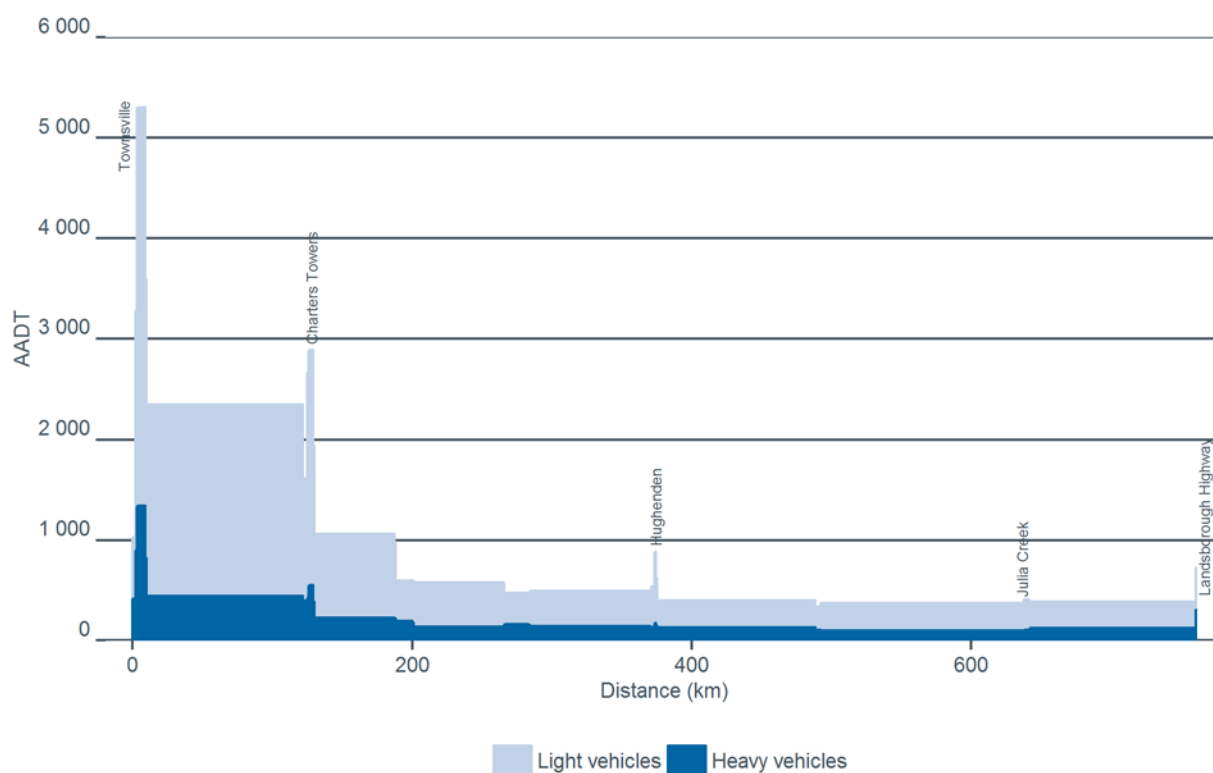
Source: Traffic counts provided by VicRoads.

Figure 18: Brisbane–Cairns corridor average daily traffic volumes, 2011–12



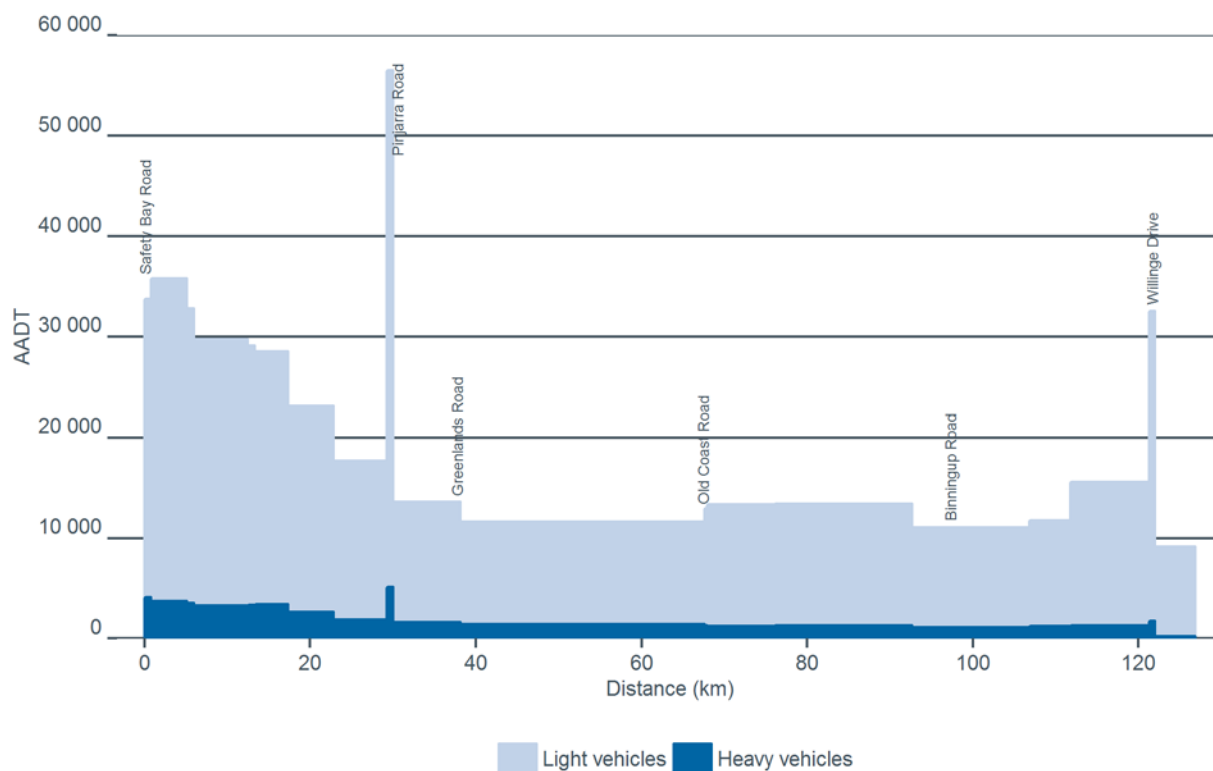
Source: Traffic counts provided by the Queensland Department of Transport and Main Roads.

Figure 19: Townsville–Mount Isa corridor average daily traffic volumes, 2011–12



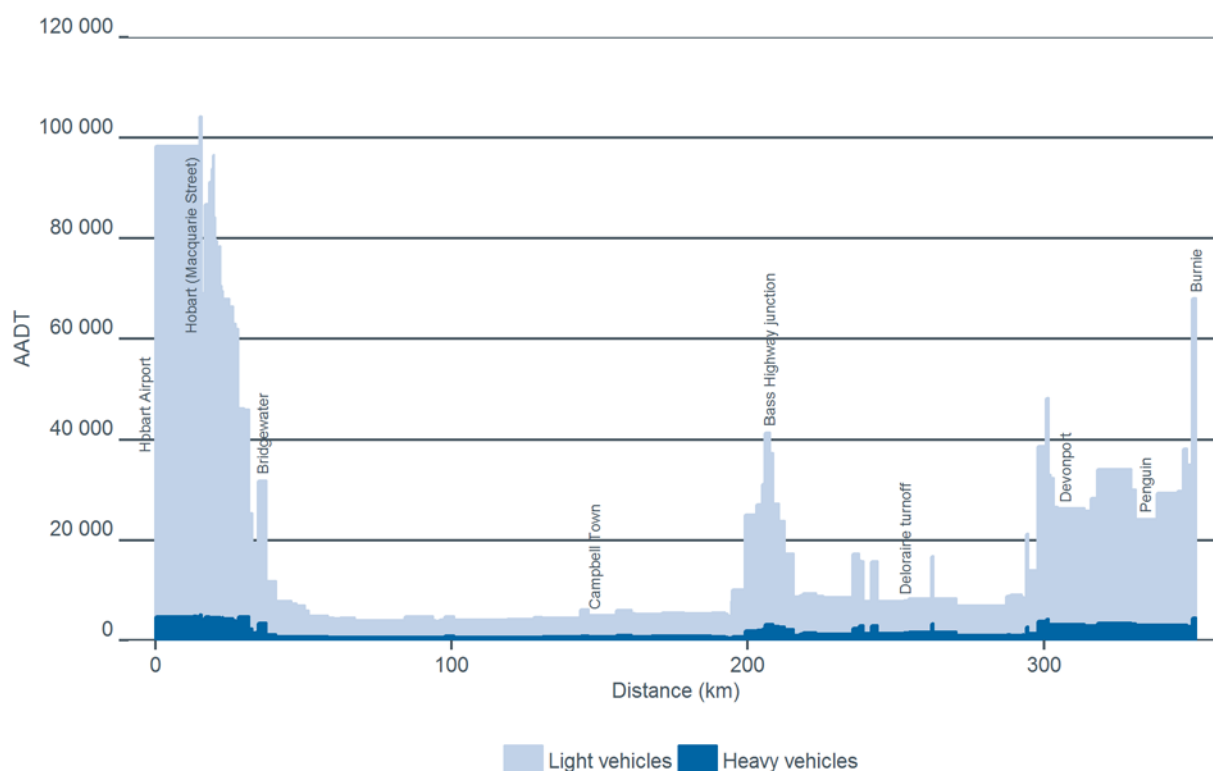
Source: Traffic counts provided by the Queensland Department of Transport and Main Roads.

Figure 12: Perth–Bunbury corridor average daily traffic volumes, 2011–12



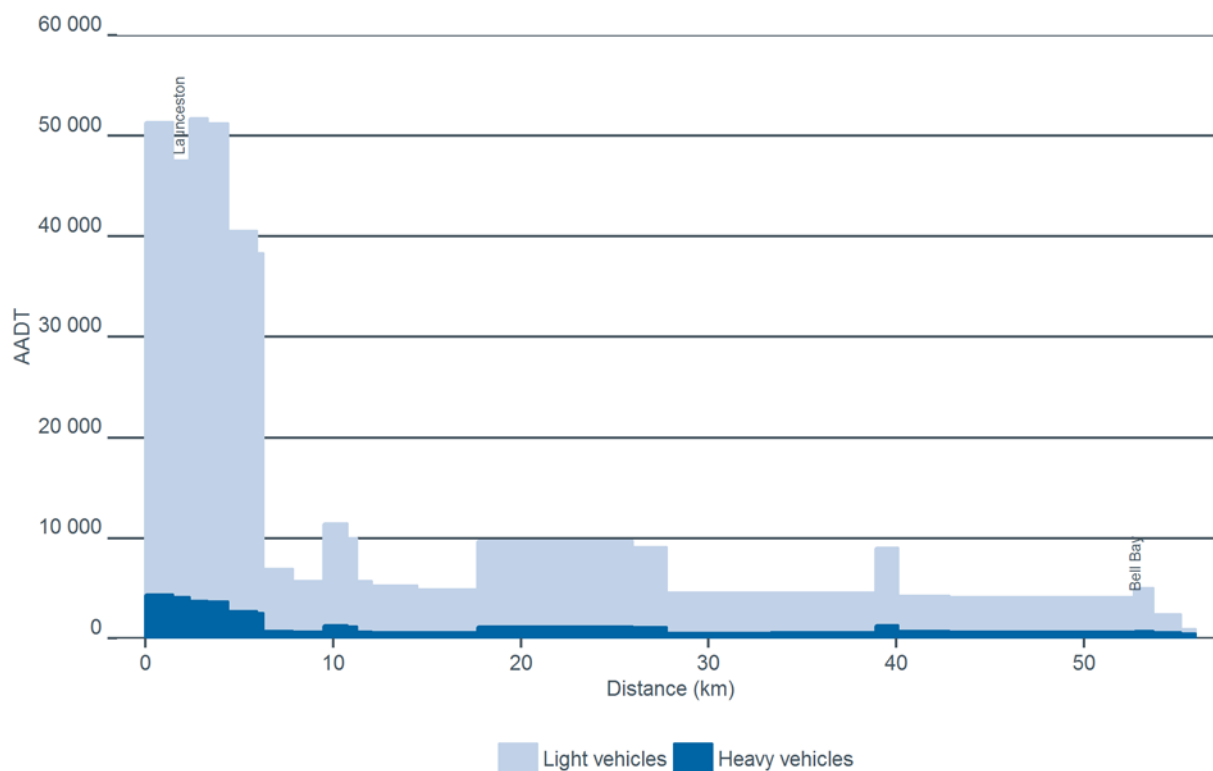
Source: Traffic counts provided by Main Roads Western Australia.

Figure 21: Hobart–Burnie corridor average daily traffic volumes, 2011–12



Source: Traffic counts provided by the Tasmanian Department of Infrastructure, Energy and Resources.

Figure 22: Launceston–Bell Bay average daily traffic volumes, 2011–12



Source: Traffic counts provided by the Tasmanian Department of Infrastructure, Energy and Resources.

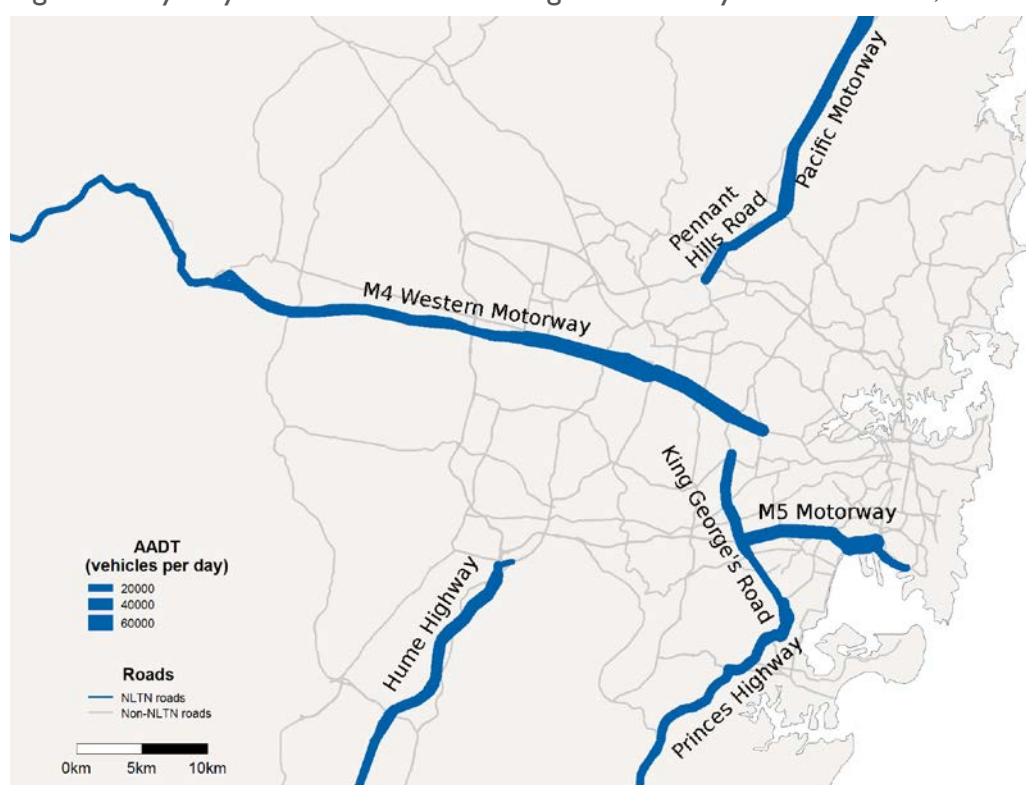
Total network use

Based on the traffic count data, BITRE estimates total vehicle use of the non-urban NLTN corridors measured approximately 45.4 billion vehicle kilometres in 2011–12—with light vehicle use approximately 38.3 billion vehicle kilometres and heavy vehicle use approximately 7.5 billion vehicle kilometres. These estimates imply that vehicle use across the intercapital and interregional NLTN accounts for approximately 19.5 per cent of estimated total vehicle road use across Australia—232.5 million vehicle kilometres in 2011–12 (ABS 2012)—with light vehicle travel on the NLTN around 17.8 per cent of total light vehicle road use in Australia and heavy vehicle travel on the NLTN somewhat higher at around 38.8 per cent of total heavy vehicle road use across Australia.

NLTN urban section traffic volumes

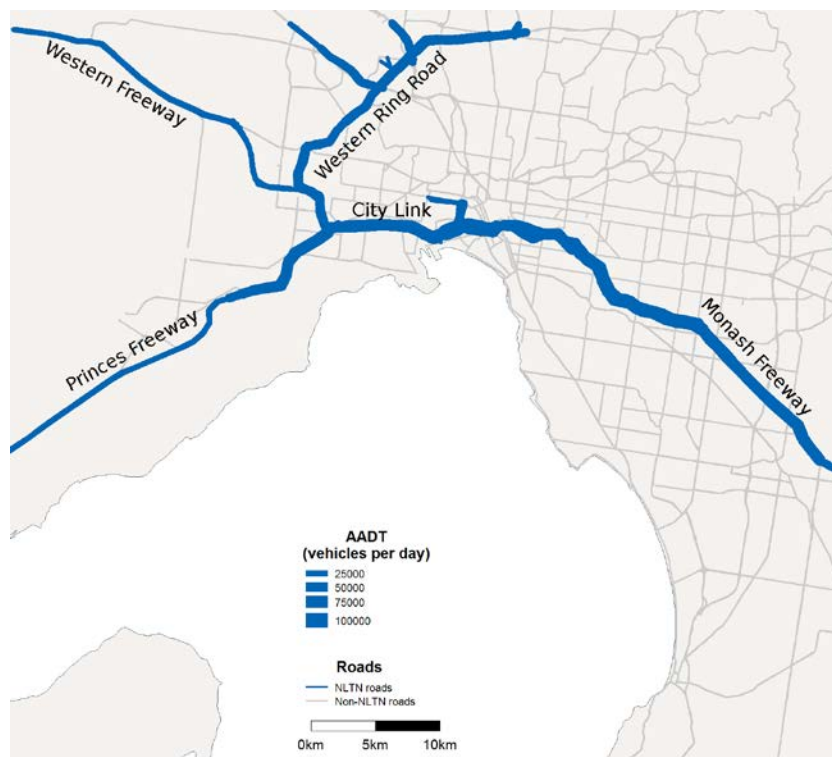
For completeness, Figures 23 to 27 show traffic volumes on NLTN links within and surrounding each of the five mainland capital cities. It should be noted that the NLTN urban links comprise only a very small subset of the urban road network in each capital city and therefore account for only a fraction of total traffic volumes in capital cities.

Figure 23: Sydney urban NLTN link average annual daily traffic volumes, 2011–12



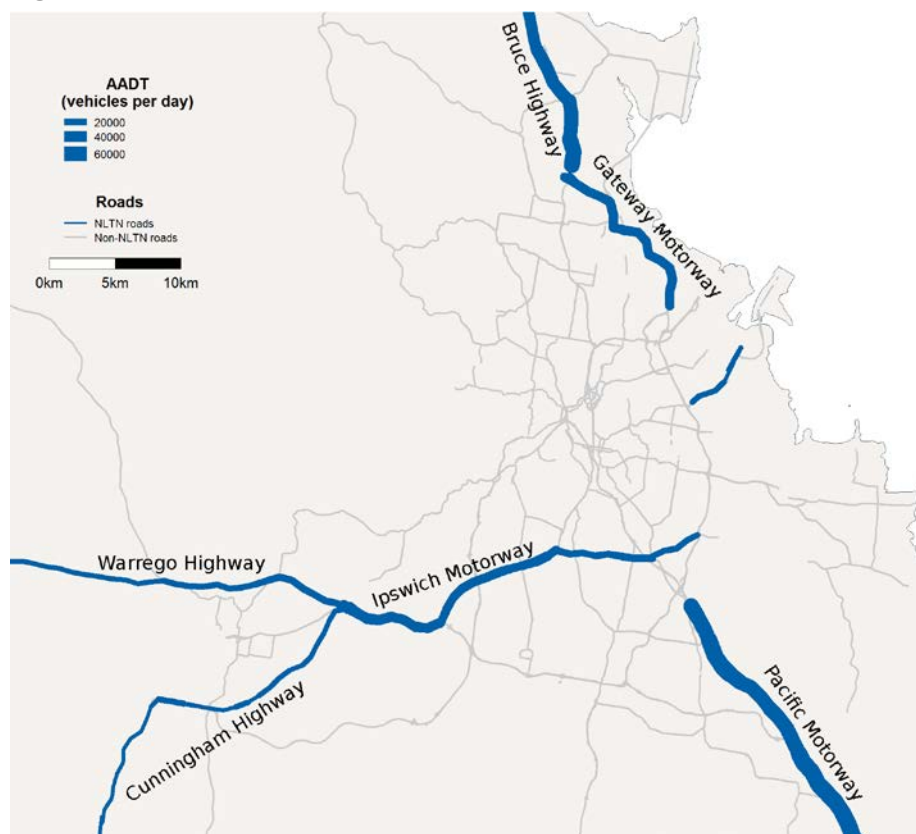
Source: Traffic data provided by Roads and Maritime Services, New South Wales.

Figure 24: Melbourne urban NLTN link average annual daily traffic volumes, 2011–12



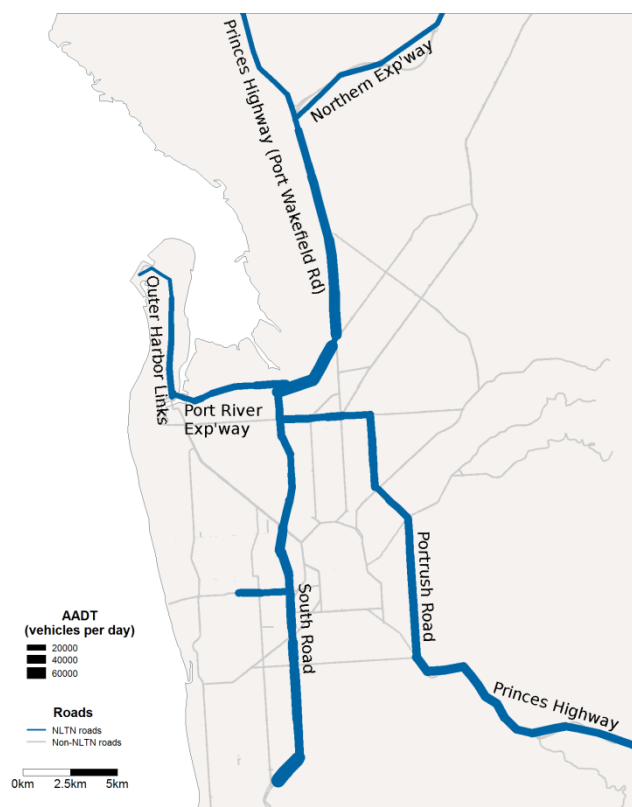
Source: Traffic data provided by VicRoads.

Figure 25: Brisbane urban NLTN link traffic volumes, 2011–12



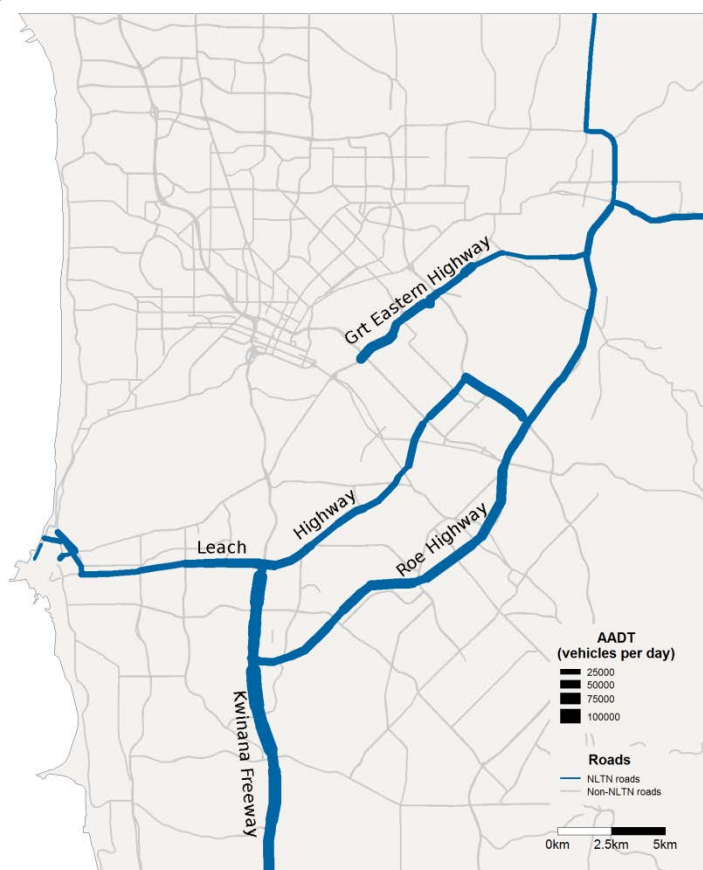
Source: Traffic data provided by the Queensland Department of Transport and Main Roads.

Figure 26: Adelaide urban NLTN link traffic volumes, 2011–12



Source: Traffic data provided by the South Australian Department of Planning, Transport & Infrastructure.

Figure 27: Perth urban NLTN link traffic volumes, 2011–12



Source: Traffic data provided by Main Roads Western Australia.

Concluding remarks

This Information Sheet presents recent road traffic volumes across the Australian National Land Transport Network—the integrated network of land transport linkages of strategic national importance. The estimates are based on data supplied by state and territory road transport agencies. They highlight the continuing significance of the NLTN to the movement of people and goods between capital cities, regional population centres and rural areas linked by the NLTN.

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Department of Infrastructure and Regional Development
Bureau of Infrastructure, Transport and Regional Economics (BITRE)
GPO Box 501, Canberra ACT 2601, Australia

Phone: (international) +61 2 6274 7210

Fax: (international) +61 2 6274 6855

Email: bitre@infrastructure.gov.au

Website: www.bitre.gov.au