

Achieving Government Goals

Our commitment to delivering safe, reliable and sustainable transport services to the community is at the core of everything we do.

Our outcome-based framework uses a program management approach to deliver six Services aligned with four Government Goals. The strategic areas of focus in Keeping WA Moving guide delivery of our services:



Customers

Provide a transport network centred on what our customers need and value



Movement

Improve mobility of people and the efficiency of freight



Sustainability

Develop a sustainable transport network that meets social, economic and environmental needs



Safety

Provide improved safety outcomes for all users of the transport network

Services and outcomes aligned with the Governments Goals are shown in the table.

Government Goal	Expenditure \$ million	Main Roads Service	Main Roads Outcome
Future Jobs and Skills Grow and diversify the economy, create jobs and support skills development	416	State Development	Facilitation of economic and regional development
Strong Communities Safe communities and supported families	435	Road Safety	Provision of a safe road environment
	110	Community Access	Improved community access and roadside amenity
Better Places A quality environment with liveable and affordable communities and vibrant regions	438	Road Maintenance	A well-maintained road network
	589	Road Efficiency	Reliable and efficient movement of people and goods
	191	Road Management	

Road Safety

Providing a Safe Road Environment

Aim

Reduce the state’s road fatalities to the lowest in Australia by minimising the road factors contributing to road trauma and reducing the serious crash injury rate.

The Program

The program comprises initiatives and projects including state and national Black Spot projects, intersection improvements, overtaking lanes, rail crossings, bridge safety, shoulder sealing and audible edge lines.

Key Performance Indicators

93% 

Target 90%
Community satisfaction with road safety has increased

64% 

Target 90%
Contracts completed on time came in below target

95% 

Target 90%
Contracts completed on budget showed continued strong performance

*For more detailed information on our Key Performance Indicators and targets see ‘Performance Measures’ on page 110

	2019	2020	2021
Program expenditure \$ million	159	175	435

Looking Ahead

Works planned for next financial year include:

- widen pavement and overlay with road reconstructions to improve sight distance on Albany Highway at Gordon South
- begin intersection upgrade of Great Eastern Highway and Old Northam Road East
- seal widening on South Western Highway – Yarloop to Harvey
- continue delivering the Coolgardie Esperance Highway Project works (Emu Rocks North and South Sections)
- progress an intersection upgrade at Karrinyup Road and Cedric Street
- continue development of South Coast Highway – Cheynes to Kojaneerup
- continue the Regional Road Safety Improvement Program, widening and sealing shoulders and introducing audible edge lines across the regional road network
- complete intersection upgrades on Great Eastern Highway at Wooroloo and Sawyers Valley.

Some of these are already underway; visit the Projects and Initiatives section of our website to find out more.

Danger of Livestock on Roads

Livestock on our roads in pastoral regions, which span more than 890,000 square kilometres, has been an issue for many years and we are actively working to manage this.

The Pastoral Animal Hazard Advisory Group has undertaken extensive research and analysis to target road safety initiatives. In 2020 and 2021, the group ran an education campaign across the Kimberley, Pilbara, Mid West – Gascoyne and Goldfields–Esperance regions. The message focused on the need for road users to drive carefully in pastoral areas where there is increased risk of straying cattle on the road.

The campaign featured a radio advertisement, billboards, digital advertising, displays in shopping centres and event venues, and an emotive social media presence – all helping to raise awareness of the need to drive with care and slow down at dusk and dawn.

We have seen a 23 per cent reduction in the number of cattle-related crashes in pastoral regions, as well as a drop in the severity of collisions that do occur.

The Pastoral Animal Hazard Advisory Group, formed in 2018, engages key stakeholders to influence improvement in safety outcomes. Membership includes representatives from government and industry bodies.

The group's research is based on data-led decision-making, to reduce the frequency and severity of livestock-related crashes. It regularly investigates, maps, and shares cattle strike hotspot data.

Other strategies include:

- installing grids on road reserve fence lines
- moving watering points further back from the roadside
- installing one-way cattle gates
- improving warning signs and fencing standards
- assisting with funding for fencing at hotspot areas.

We continue to invest in initiatives related to the issue of straying cattle on the road network. According to police records, between 2015 and 2019, 2.17 per cent of all crashes in pastoral regions involved cattle or sheep. Approximately 83 per cent of cattle strikes occur after dusk, according to analysis undertaken on a section of Great Northern Highway in the Kimberley. Increased numbers of animal-related crashes are experienced in the Kimberley region between June and August and in the Pilbara region between April and July.

Funds are available to continue the program, and additional fencing and other mitigation measures at known hotspots are anticipated. We will continue to work with pastoralists and our State Government and industry partners to educate drivers in an effort to get everyone to their destination safely. For more information visit our website.

Key Projects

Project	Total Project Cost (\$ million)	2020–21 Cost (\$ million)	Completion Date	Description
Great Southern Region				
South Coast Highway – Kojaneerup	30.0	12.0	June 2021	Widen pavement and construct passing lanes as part of South Coast Highway upgrade program.
Regional Road Safety Program	14.6	11.4	June 2021	Install audible edge lines and shoulder sealing.
Metropolitan Region				
Albany Highway and Fremantle Road Intersection Upgrade	3.0	1.4	August 2020	Provide double right-turn pocket, including modifying traffic signals and upgrading drainage and street lighting.
Wanneroo Road – Green Street and Walcott Street Intersection Upgrade	5.7	2.0	September 2020	Increase length of turn pockets, including modifications to traffic signals and upgrade of street lighting.
Regional Road Safety Program	6.1	6.4	June 2021	Install audible edge lines and shoulder sealing.
Mid West – Gascoyne Region				
Minilya Exmouth Road and Burkett Road Widening	19.5	14.5	August 2021	Widen formation, carry out drainage-enabling works, seal shoulders and install audible edge lines.
Great Northern Highway – Peak Hill to Kumarina	7.8	7.8	May 2021	Prepare and seal shoulders to existing formation width and install audible edge lines.
Regional Road Safety Program	31.1	23.7	June 2021	Install audible edge lines and shoulder sealing.
Pilbara Region				
Paraburdoo Tom Price Road Widening	4.6	4.6	May 2021	Install guardrail and carry out road widening.
Regional Road Safety Program	35.8	34.2	June 2021	Install audible edge lines and shoulder sealing.
South West Region				
Collie–Mumballup Road	10.4	5.3	Mid 2023	Widen 18 km of road between Collie and Mumballup.
South Western Highway – Quinninup to Middleton Road	4.5	0.1	May 2021	Widen and seal shoulders.
Regional Road Safety Program	29.1	25.8	June 2021	Install audible edge lines and shoulder sealing.

Project	Total Project Cost (\$ million)	2020–21 Cost (\$ million)	Completion Date	Description
Wheatbelt Region				
Chidlow York Road Realignment	5.5	5.5	June 2021	Realign east of St Ronnans to east of Ashworth Road.
Albany Highway – Williams to Arthur River	5.2	5.2	June 2021	Seal shoulders and install audible edge lines.
Regional Road Safety Program	42.5	43.2	June 2021	Install audible edge lines and shoulder sealing.
Goldfields–Esperance				
Leonora to Laverton Road	1.0	1.0	June 2021	Seal shoulders.
Coolgardie-Esperance Highway Emu Rocks North	10.0	9.0	June 2021	5.2 km north to Goldfields Highway Junction – realign road, seal shoulders and install audible edge lines.
Regional Road Safety Program	20.3	16.1	June 2021	Install audible edge lines and shoulder sealing.
Kimberley Region				
Regional Road Safety Program	9.4	6.5	June 2021	Install audible edge lines and shoulder sealing.
Black Spots Programs				
State Black Spot program	21.4	21.4	June 2021	25 projects on State Roads. 69 projects on local roads.
Australian Government Black Spot program	15.4	15.4	June 2021	33 projects.
Railway Level Crossing Program				
Upgrade to boom gate control Provide flashing light controlled crossings and upgrades to pedestrian crossings	6.3	6.3	June 2021	Providing boom gate control to upgrade nine, active flashing light–controlled crossings. Providing flashing light control to upgrade three stop sign–controlled crossings. Upgrading 10 pedestrian crossings to ensure compliance.

Road Efficiency

Providing Reliable and Efficient Movement of People and Goods

Aim	Improve the efficiency, capacity and utilisation of the existing road network as part of a total transport network.
The Program	The program includes projects that deliver geometric improvements, road widening, bridge strengthening and retrofitting to incorporate intelligent transport capabilities.

Key Performance Indicators

93%

Target 90%

Travel meeting configuration standards for width and curve exceeded the target

72%

Target 90%

Contracts completed on time is below target and lower than previous results

97%

Target 90%

Contracts completed on budget exceeded our target showing continued strong performance

*For more detailed information on our Key Performance Indicators and targets see 'Performance Measures' on page 110

	2019	2020	2021
Program expenditure \$ million	411	563	589

Looking Ahead

Works planned for next financial year include:

- continue construction of the Tonkin Gap project
- continue development of the Pinjarra Heavy Haulage Deviation
- continue development of EastLink WA, including funded grade separations at Drumpelier Drive, Altone Road and West Swan Road
- commence construction of the Leach Highway and Welshpool Road interchange
- continue development and construction of Great Eastern Highway Bypass interchanges with Abernethy Road, Lloyd Street and Roe Highway
- commence construction of the Swan River Crossings project
- continue construction of the widening of Mitchell Freeway southbound between Hodges Drive and Hepburn Avenue
- continue works under the Traffic Congestion Management Program
- complete construction of the Armadale Road Bridge – North Lake Road flyover
- continue upgrading sections of Great Northern Highway through the Kimberley region
- continue roundabout construction at the intersection of Great Northern Highway and Apple Street
- continue delivering works on the Bunbury Outer Ring Road project.

Some of these are already underway; visit the the Projects and Initiatives section of our website to find out more.

More Productive and Efficient Freeways

Perth's first Smart Freeway is a milestone for Main Roads in 'intelligent operation' of our existing freeways. It was opened in August 2020.

Through roadside technology and sophisticated traffic control systems, the \$56m project on Kwinana Freeway northbound, from Roe Highway to the Narrows Bridge, successfully meets the promise of more reliable journeys, safer driving experiences and reduced congestion.

Within its first 10 months, average travel time saved on this section of Kwinana Freeway was five minutes. There was also an average 13 per cent increase in traffic flow across Narrows Bridge during the morning peak hour. Whilst the COVID-19 pandemic continues to impact travel behaviour, this section of freeway is more productive and efficient than ever before.

During construction, the Smart Freeway Kwinana Northbound project supported 245 jobs. It is expected the Smart Freeway Mitchell Southbound project will support up to 500 jobs during construction.

In addition, the Intelligent Transport Systems used on our Kwinana Smart Freeway required technologies and equipment that were not readily available in the state. The COVID-19 pandemic complicated the build during 2020, in relation to consultants and technicians coming to Perth from overseas or eastern states. However, local technicians and companies stepped up, educating themselves and working remotely with experts. This knowledge transfer and the experience gained by Western Australian-based providers will assist with the delivery of future Smart Freeways.

Operated 24/7 from the Road Network Operations Centre, a dedicated team monitors the various systems and respond using overhead lane-use signs and variable message signs. They also apply reduced speed limits in response to congestion on the freeway. This function regularly operates during peak periods and enhances safety for road users by providing advance notification of queues ahead.

Along the all-lanes-running section of the Smart Freeway, emergency stopping bays provide a safe pull-over area. Data from the first year shows that an average of 300 incidents per month are managed on this section. A dedicated Incident Response Service is available and, on average, has been deployed 100 times per month.

Technology continues to evolve and improve, and our Smart Freeways will be well placed to take advantage of this. Over the next 12 months, we are planning work on innovative ways to display information to drivers on the Smart Freeway section of Kwinana Freeway northbound including examining speed limit displays and driver attention, and colour-coded travel times and pictograms on dynamic messaging signs. To get the latest information on progress for our Smart Freeway on Mitchell Southbound visit our website.

Key Projects

Project	Total Project Cost (\$ million)	2020–21 Cost (\$ million)	Completion Date	Description
Kimberley Region				
Great Northern Highway – Ord River North	98.1	7.4	Late 2023	Road efficiency improvements to Ord River – Bow River.
Broome – Cape Leveque Road Upgrade	65.6	18.7	Late 2021	Construction and sealing of remaining 90 km long unsealed section.
Gordon Downs Road – Duncan Road Upgrade	51.0	10.2	Late 2023	Road improvements to provide reliable and safer, all-weather access to Aboriginal communities and a mine site.
Metropolitan Region				
Leach Highway Carrington Street to Stirling Highway	76.0	33.6	Late 2021	Upgrade Leach Highway from Carrington Street to Stirling Highway.
Tonkin Highway – Collier Road to Stanton Road	290.0	65.9	Late 2023	Tonkin Gap Project – Collier Road to Stanton Road and associated works.
Great Eastern Highway Bypass Interchanges	320.0	2.1	Late 2024	Great Eastern Highway Bypass – Abernethy Road and Roe Highway interchange upgrades and associated works.
Pilbara Region				
Great Northern Highway Koodaideri Road-over-Rail Bridge	24.7	8.7	December 2020	Construction of a single-span, road-over-rail bridge, inclusive of associated roadworks for the proposed Koodaideri mine rail track.
Port Hedland Spoilbank Marina Trucking Route	4.2	3.5	March 2021	Construction of Port Hedland Spoilbank Marina Trucking Route.
South West Region				
Bussell Highway Widening Stage 1 and 2	85.0	24.9	Mid 2023	Construction of dual carriageway.
Bunbury Outer Ring Road Stage 2 and 3	852.0	77.8	Mid 2024	Construction of a high standard rural highway between Forrest Highway and Bussell Highway.
Wheatbelt Region				
Great Northern Highway – Walebing and Wubin Sections	25.9	11.5	December 2020	Construction of 4 km highway through Walebing. Upgrade the intersection in Wubin to allow future southern access for 53.5 m road trains and access to local facilities.
Goldfields–Esperance Region				
Coolgardie Esperance Highway – Emu Rocks South	52.0	2.2	Late 2022	Coolgardie Esperance Highway – Emu Rocks South reconstruction and passing lanes.

State Development

Facilitating Economic and Regional Development

Aim	Expand the road network in accordance with State and Commonwealth governments' transport and land use strategies to support the state's economic and regional development.
The Program	The program includes most expansion, major infrastructure and bypass projects – predominantly the most complex works we deliver.

Key Performance Indicators

<h2 style="font-size: 2em;">3.2[✘]</h2> <p>Target 4.2 Our target for the average return on expenditure was not met</p>	<h2 style="font-size: 2em;">83%[✔]</h2> <p>Target 90% Contracts completed on time came within target with a decrease from last year</p>	<h2 style="font-size: 2em;">100%[✔]</h2> <p>Target 90% Contracts completed on budget exceeded our target showing continued strong performance</p>
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*For more detailed information on our Key Performance Indicators and targets see 'Performance Measures' on page 110

	2019	2020	2021
Program expenditure \$ million	618	461	416

Looking Ahead

Works planned for next financial year include:

- continue construction of Stage 2 of the Albany Ring Road Project
- continue development of Stage 4 of Manuwarra Red Dog Highway construction works
- continue construction of the Mitchell Freeway Extension from Hester Avenue to Romeo Road
- continue construction of the Armadale Road Bridge – North Lake Road Flyover
- continue construction of Mitchell Freeway Hodges Drive to Hester Avenue.

Some of these are already underway; visit the Projects and Initiatives section of our website to find out more.

Asbestos Management on Manuwarra Red Dog Highway



Asbestos Management on Manuwarra Red Dog Highway

The project, part of a wider program of works on the newly named Manuwarra Red Dog Highway, provides safer road access for tourists and local road users. These works improve access to both Millstream Chichester and Karijini national parks helping boost tourist traffic in the heart of the Pilbara whilst also delivering productivity benefits for the mining industry.

In October 2018, prior to contract award, site investigations uncovered the largest asbestos contamination ever found on one of our worksites. The project team worked with key stakeholders including Department of Water and Environmental Regulation, Department of Mines, Industry Regulation and Safety, Department of Planning, Lands and Heritage and the Department of Health to undertake remediation work prior to and manage the contamination during construction.

An extensive Asbestos Management Plan was developed, with a parallel detour track offered for use by Rio Tinto to ensure road worker and road user safety, and construction productivity. Permission to use the Rio Tinto track was testament to the strong relationship our Pilbara region has developed with the company in recent years.

Just over 18,000 cubic metres of surface and sub-surface asbestos was removed pre-construction, at a cost of \$4.5 million. The management and clean-up process has provided us with learnings that will ensure any future contaminations are met with the highest and most appropriate level of management reporting, training and record keeping, while ensuring health risks and the safety of road users is minimised.

During construction, more than 100 direct and indirect job opportunities were created for both local and non-local Aboriginal people and businesses, with the team responsible for managing significant material logistics including:

- 615,650 tonnes of crushed rock material for pavement construction, with an average carting lead of 137 kilometres
- 266,770 tonnes of gravel for subgrade construction
- 592,835 litres of bitumen (from Perth) for sealing
- 2,515 tonnes of concrete batched and placed for drainage structures
- 7,960 tonnes of locally sourced rock for rock protection
- 210,984 cubic metres of fill excavated from on-site borrow pits.

With Stage 3 complete, our focus now shifts to construction of the fourth 110 km and final stage of the 270-kilometre long highway. Once complete, road users travelling between Karratha and Tom Price will save more than 2.5 hours of travel time compared to the previous, unsealed route. The new road will also help boost tourist traffic while providing improved connectivity between Karratha, Roebourne, Tom Price, Paraburdoo and Newman, and better access to hospitals, medical services, local businesses, shopping and service centres.

Key Projects

Project	Total Project Cost (\$ million)	2020–21 Cost (\$ million)	Completion Date	Description
Great Southern Region				
Albany Ring Road Stage 2	175.0	42.0	Early 2024	Construct and seal Albany Ring Road Stage 2.
Pilbara Region				
Manuwarra Red Dog Highway Stage 3	95.0	14.9	August 2020	Construction of a 48 kilometre section of road.
Metropolitan Region				
Mitchell Freeway Extension	215.0	31.4	Late 2022	Mitchell Freeway Extension Hester Avenue to Romeo Road.
Armadale Road Bridge over Kwinana Freeway	259.0	120.3	Late 2021	Armadale Road Bridge over Kwinana Freeway. Extension of Armadale Road to Northlake Road.
Wanneroo Road and Joondalup Drive Interchange	73.4	23.5	December 2020	Wanneroo Road and Joondalup Drive Interchange – grade separation.
Kimberley Region				
Gibb River Road	4.3	1.5	Late 2021	Pentecost to El Questro.

Road Maintenance

Providing a Well-Maintained Road Network

Aim

Maintain the existing road and bridge network in a safe and serviceable condition whilst maximising asset life and minimising whole-of-life costs.

The Program

The program covers the maintenance of all road, bridge and ancillary assets, road verges and reserves. Works include routine and periodic maintenance and reconstruction when the primary reason for maintenance is due to pavement failure.

Key Performance Indicators

89% ✓

Target 90%

Community satisfaction with road maintenance improved with one of our best results

87% ✓

Target 85%

Our preventative and proactive maintenance indicator achieved its highest rate ever

\$8,121 ✓

Target \$8,800

Average \$ cost of network maintenance per lane-kilometre of road network target was achieved

*For more detailed information on our Key Performance Indicators and targets see 'Performance Measures' on page 110

	2019	2020	2021
Program expenditure \$ million	449	426	438

Looking Ahead

Works planned for next financial year include:

- rehabilitate switchboards or wiring for lighting circuits which no longer comply with Western Australian electricity regulations
- progress resurfacing and rehabilitation works
- progress shoulder reconditioning and sealing works
- provide further capacity in the delivery of maintenance and minor capital works through a state-wide road construction panel contract
- continue to plan and deliver, in the regions, on their 10-year Network Development Plans
- continue to prepare Metropolitan Road Development and Asset Management Plans.

Saving Lives, Money and Resources through Innovation



Saving Lives, Money and Resources through Innovation

Main Roads' collaborative research initiative, the Western Australian Road Research and Innovation Program (WARRIP), was recognised with both a state and national Innovation Award during 2020. The awards, from the Australian Flexible Pavement Association, acknowledge the program's role in introducing and helping implement new technologies in industry.

With almost 40 projects completed – WARRIP has provided novel outcomes and ground-breaking solutions for us and our contractors. The program focuses on road pavement and surfacing, structures, asset management and implementation of innovative materials engineering.

The research program is the cornerstone of a collaborative research agreement, commenced in 2015, with the Australian Road Research Board. The agreement aims for capital cost savings and an improved rate of return through targeted investigation, development and knowledge transfer of new technologies and practices in road transport infrastructure.

WARRIP has worked closely with the flexible pavements industry since its inception. It enlists our own experts working with the Australian Road Research Board, academia and industry to evaluate these advancements for use in building, maintaining and operating our largely remote and expansive road network that crosses varying climatic zones and geographical regions.

Examples of WARRIP contributing to our state's road network becoming safer, more cost-effective and having a reduced environmental impact include:

- exploring the use of asset inventory data to automatically generate Australian Road Assessment Program and Australian National Risk Assessment Model risk ratings for quick and efficient identification of below-standard road sections
- reducing the design thickness of asphalt pavements through improved characterisation of material properties, based on the operating conditions in Western Australia
- developing opportunities for beneficial recycling of waste material from other industries to improve the properties of products used in roadbuilding, such as using crumb rubber from tyres in the manufacture of bituminous binders to improve durability, reduce demand for petroleum-derived products and divert waste materials from landfill.

WARRIP recognises that innovations are constantly emerging and have the potential to enhance the performance, safety, sustainability and durability of Western Australia's road network. To find out more about the program or to get an update on what its currently pursuing, visit its dedicated website.

Key Projects

Project	Total Cost (\$ million)	2020–21 Cost (\$ million)	Completion Date	Description
Great Southern Region				
Regional Project Maintenance	27.5	27.1	June 2021	Maintenance of the network.
Maintenance Delivery – Roads	20.8	20.1	June 2021	Delivery of road maintenance.
Reseal Program	4.7	4.7	June 2021	Great Southern Region resurfacing program.
Metropolitan Region				
Regional Project Maintenance	56.0	54.8	June 2021	Maintenance of the network.
Maintenance Delivery – Roads	32.2	31.8	June 2021	Delivery of road maintenance.
Reseal Program	22.8	22.2	June 2021	Metropolitan Region resurfacing program.
Mid West – Gascoyne Region				
Regional Project Maintenance	30.4	29.8	June 2021	Maintenance of the network.
Maintenance Delivery – Roads	19.5	19.5	June 2021	Delivery of road maintenance.
Reseal Program	10.3	10.2	June 2021	Mid West – Gascoyne Region resurfacing program.
Pilbara Region				
Regional Project Maintenance	25.3	25.2	June 2021	Maintenance of the network.
Maintenance Delivery – Roads	19.9	19.0	June 2021	Delivery of road maintenance.
Reseal Program	5.5	6.2	June 2021	Pilbara Region resurfacing program.
South West Region				
Regional Project Maintenance	28.1	28.7	June 2021	Maintenance of the network.
Maintenance Delivery – Roads	16.0	16.7	June 2021	Delivery of road maintenance.
Reseal Program	12.1	12.0	June 2021	South West Region resurfacing program.
Wheatbelt Region				
Regional Project Maintenance	41.3	43.2	June 2021	Maintenance of the network.
Maintenance Delivery – Roads	21.9	21.6	June 2021	Delivery of road maintenance.
Reseal Program	11.0	10.3	June 2021	Wheatbelt Region resurfacing program.
Goldfields–Esperance				
Regional Project Maintenance	39.5	39.1	June 2021	Maintenance of the network.
Maintenance Delivery – Roads	19.0	17.3	June 2021	Delivery of road maintenance.
Reseal Program	10.2	11.6	June 2021	Goldfields–Esperance Region resurfacing program.
Kimberley Region				
Regional Project Maintenance	23.1	27.5	June 2021	Maintenance of the network.
Maintenance Delivery – Roads	19.2	19.6	June 2021	Delivery of road maintenance.
Reseal Program	3.9	7.8	June 2021	Kimberley Region resurfacing program.

Community Access

Improved Community Access and Roadside Amenity

Aim	Improve personal mobility and access needs on the road network.
The Program	The program provides infrastructure including: remote access roads; access for walking and cycling; improved access and mobility for people with a disability; integrated public transport; and improved amenities such as information bays, noise attenuation and landscaping.

Key Performance Indicators

<p style="font-size: 2em;">89% </p> <p>Target 90%</p> <p>Community satisfaction with cycleways and pedestrian facilities remains strong</p>	<p style="font-size: 2em;">84% </p> <p>Target 95%</p> <p>Floods and fires had an impact on how often 100% of the network was available</p>	<p style="font-size: 2em;">100% </p> <p>Target 90%</p> <p>Contracts completed on budget performed strongly, exceeding our target</p>
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*For more detailed information on our Key Performance Indicators and targets see 'Performance Measures' on page 110

	2019	2020	2021
Program expenditure \$ million	52	36	110

Looking Ahead

Works planned for next financial year include:

- continue upgrade works on remote access roads
- commence upgrading and sealing of Tanami Road
- continue sealing and improvements on the Broome – Cape Leveque Road
- continue improvement works on the Duncan and Gordon Downs Roads
- improve pedestrian and cycling facilities
- commence construction on the Mitchell Freeway amenity wall and principal shared path
- continue sealing and improvements on Outback Way
- commence construction on the Causeway Cyclist and Pedestrian Bridge Project.

Some of these are already underway; visit the Projects and Initiatives section of our website to find out more.

Kids' Bridge: Realisation of a Long-held Dream



Kids' Bridge: Realisation of a Long-held Dream

'It's quite playful because you don't understand what it is, and when you do find something you get excited about telling someone else what you can see'. This is how Aboriginal artist Kamsani Bin Salleh describes his stunning mural that forms part of the Kids Bridge Project.

Dual named Koolangka Bridge, which means 'children' in the Noongar language, the opening of the new Kids' Bridge realises a long-held dream to provide sick kids and their families with a chance to escape the rigours of hospital treatment.

The Kids' Bridge, a footbridge linking Queen Elizabeth II Medical Campus with Kings Park, is far more than a piece of infrastructure. Clinicians have noted that outdoor visits have a positive effect for the overall wellbeing of sick people and their families – and the bridge will continue to provide these benefits for many generations to come.

Made possible with a \$6.3 million contribution from the Perth Children's Hospital Foundation and \$2.3 million from Government, the three-metre wide, 217-metre long bridge provides an easy and safe crossing for inpatients, outpatients, families and medical campus staff to enjoy the beauty and nature of Kings Park.

Using an early concept by the Fratelle Group, engineers AECOM completed the detailed design of the Kids' Bridge focusing on who would use it, as well as the environmental footprint, cost, constructability and ongoing maintenance requirements.

Western Australian company Civmec were awarded the construction contract in December 2020, under Main Roads' management. Civmec built the 11 separate bridge segments off-site in Henderson, using 300 tonnes of locally fabricated steel and employing 40 people, then transported each segment to Nedlands, installing them over a series of weekends in April 2021.

The striking footbridge was delivered as a collaboration between Perth Children's Hospital Foundation, Main Roads, Perth Children's Hospital, Queen Elizabeth II Medical Centre Trust, Botanic Gardens and Parks Authority, Department of Health, Child and Adolescent Health Service and City of Perth.

Featuring programmable coloured LED lighting on the outside of the bridge, and a sensor speaker system with the ability to play programmed acoustics, the bridge provides an opportunity for a range of therapies, including allied health, to be delivered in an environment with the wellbeing benefits of nature.

If you are interested in seeing a time-lapse of the construction process, visit our YouTube channel.

Key Projects

Project	Total Project Cost (\$ million)	2020–21 Cost (\$ million)	Completion Date	Description
Metropolitan Region				
Principal Shared Path – Fremantle Line	7.0	6.5	Late 2021	Provision of a Principal Shared Path between Victoria Street and North Fremantle station, including lighting.
Mitchell Freeway – Hepburn Avenue to Warwick Road	6.0	0.0	Mid 2023	Provision of an amenity wall and principal shared path on Mitchell Freeway from Hepburn Avenue to Warwick Road.
Principal Shared Path – Kwinana Freeway	15.0	6.5	Late 2021	Provision of a Principal Shared Path from Leach Highway to Mt Henry Bridge including construction of an underpass at Cranford Avenue and lighting.
The Kids' Bridge	7.4	7.0	July 2021	Construction of pedestrian foot bridge over Winthrop Avenue between the Perth Children's Hospital and Kings Park.
Goldfields–Esperance				
Outback Way Upgrade	164.1	25.8	Late 2026	Sealing priority section of Outback Way. Seal Great Central Road – Laverton.
Wheatbelt Region				
Wheatbelt Secondary Freight Network	187.5	2.6	Late 2025	Upgrade significant freight route within the Wheatbelt region.

Road Management

Providing Reliable and Efficient Movement of People and Goods

Aim	Optimise real-time traffic management of the network, provide traveller information, improve asset management planning and support service delivery.
The Program	The program includes activities associated with the management and operation of the road network, the Road Network Operations Centre, road safety support, Heavy Vehicle Services, Network Operations and Planning and Technical Services.

Key Performance Indicators

92%[✓]

Target 90%

Community satisfaction with Main Roads is at its highest since 2015

98%[✓]

Target 97%

Available Network for use by B-Double – 27.5 m continues to show strong performance

94%[✓]

Target 94%

We reached our target for percentage of bridges that met standard strength criteria

*For more detailed information on our Key Performance Indicators and targets see 'Performance Measures' on page 110

	2019	2020	2021
Program expenditure \$ million	128	174	191

Looking Ahead

Projects and activities planned for next financial year, include the following:

- continue to deliver our state-wide industry workshops and information sessions
- implement the Heavy Vehicle Compliance Automation Project
- continue to explore and implement the WA Heavy Vehicle Accreditation Scheme Operational Review outcomes
- implement the Heavy Vehicle Monitoring System as part of the National Compliance Information System Program
- continue the development of the real-time operating platform
- implement speed limit changes at traffic signals to improve road safety outcomes
- enable and launch Traffic WA Broadcasting to better inform the travelling public of delays
- provide technical support and coordination for the delivery of Smart Freeway projects on Mitchell Freeway southbound
- development of a proof of concept for using machine learning technology to determine bridge health and to predict maximum bridge displacement and vibrations caused by heavy vehicles.

Some of these are already underway; visit our website to find out more.

When it's Bigger Than You



When it's Bigger Than You

The 'Know what to do when it's #BiggerThanYou' education campaign launched in early 2021. The campaign used television advertisements, radio and social media to educate road users about oversize overmass (OSOM) vehicles, and the role of Heavy Vehicle Pilots and Traffic Escort Wardens on our roads.

OSOM vehicles and road trains – which are usually bigger, slower and wider than the average vehicle – are often required to transport large loads on rural roads and, for many road users, it can be daunting sharing the road with them.

During 2020, there was a significant increase in traffic on regional roads as Western Australians travelled more, due to the COVID-19 pandemic. Statistics from our Mid West – Gascoyne region show that cars towing a caravan increased by 140 per cent on Brand Highway, compared to the same time in 2019, and 150 per cent on North West Coastal Highway. Cars increased by 105 per cent on Minilya Exmouth Road and by more than 50 per cent on North West Coastal Highway, Shark Bay Road and Northampton Kalbarri Road

This increase in intra-regional traffic also led to industry feedback about road users not knowing what Heavy Vehicle Pilots or Traffic Escort Wardens are, or what they do.

#BiggerThanYou highlights four simple steps road users should follow when they encounter a load which is bigger, wider, longer or slower: slow down, move left, prepare to stop and follow directions given by the Pilot or Warden.

Post-campaign research showed that the communications were engaging, memorable and well liked, while effectively conveying clear key messages around how to safely overtake a heavy vehicle, and to be prepared when encountering an OSOM vehicle.

More than half the post-campaign survey participants said that they took action as a result of the campaign, changing their driver behaviour and speaking to family and friends about how to safely pass a heavy or OSOM vehicle.

#BiggerThanYou was awarded the WA Rural Media Association's Award for Best Communications Campaign in July 2021.

Given its success, we plan to launch a second phase of the campaign in late 2021, with an additional focus around what to do when encountering large, slow moving agricultural vehicles on our roads.

Network Operations

Developing our future network operators

The Network Operations graduate program is both complex and challenging, developing skilled people for our current operations as well as the future of our network. The three year training program started in January this year with graduates rotating through and contributing to different technical areas and disciplines.

Network Operations work requires a diverse range of skills and our customers benefit from our graduates fresh perspectives and passion across a range of areas including operational performance assessment, Intelligent Transport System device management, signs and lines regulations and associated safety impacts, real-time incident and event responses, traffic signal controller programming, and data analytics.

Intelligent Transport Systems

Intelligent Transport Systems (ITS) use communication, data processing, and electronic technologies to increase transportation safety and sustainability, reduce congestion, and improve the performance of our transport networks.

As part of the deployment of Smart Freeways we have commissioned over 490 devices and manage over 10,000 ITS devices across the road network. We participate in working groups including Austroads, National Transport Commission, iMoveCRC and ITS Australia to be at the forefront of new technologies and future transport developments.

We have recently developed a pilot real-time operations platform that integrates existing data with new data sources throughout the state into a common operating picture. This improves situational awareness for real-time traffic operations and will be further developed to provide additional functionality and data integration. This will ensure proactive congestion management on the network to better collaborate and coordinate across the portfolio.

Guidelines for Pedestrian Crossing Facilities at Traffic Signals

We developed new Guideline for Pedestrian Crossing Facilities at Traffic Signals. The 39-page, illustrated guide is available online providing a standard reference on signalised pedestrian facilities and treatments to facilitate pedestrian movements and increase safety at traffic signals. In addition, the guide clearly describes the types and features of pedestrian crossings, and explains appropriate use including considerations for vulnerable road users. Compiled following significant stakeholder feedback, the guidelines will improve transparency and consistency of approach at pedestrian crossing facilities at traffic signals.

Incident Management

We have managed more than 9,000 incidents across the state road network over the last year. Managing incidents is a key function in providing a safe and efficient road network for our customers and this year we saw increased numbers of incidents across all categories, except for events involving public utilities and vehicle fires. The highest proportion of incidents was once again Breakdowns at 3,204 up from 2,482 since last year, closely followed by crashes which again increased from 2,379 to 2,807 in 2020-21. Flooding increased significantly with more than 109 incidents managed across the state and similar increase in bushfires increasing from 93 to 136. Debris can cause congestion at any time of the day and this year the number of incidents rose from 2,029 to more than 2,500. To help keep traffic moving we seek to provide clearance solutions reinstating roads to a safe condition as quickly as possible.

Heavy Vehicle Services

We are the heavy vehicle regulator for Western Australia which makes us responsible for improving heavy vehicle safety, productivity, and the equity of services across the transport industry through compliance, innovation and road asset sustainability. We facilitate and regulate the movement of Restricted Access Vehicles (RAVs) across the state, provide a one-stop shop for permits and traffic escort services for oversize, over mass vehicle movements and work with industry groups and government agencies at a state and national level. We work with the National Heavy Vehicle Regulator to allow the seamless movement of RAVs between Western Australia and other states. As illustrated below there was a slight increase in the number of permits reaching a new high of 35,216.

Total Number of Permits Issued		
	2020	2021
Single Trip Permits	13,104	13,706
Period Permits	18,500	18,951
Special Purpose Vehicle Permits	2,696	2,559
Total	34,300	35,216

Mobile Operations Centre

Our Heavy Vehicle Compliance Team now have a Mobile Operations Centre vehicle for assisting Transport Inspectors at roadblock operations across Western Australia. Carrying spare equipment for additional assistance during patrols, it also doubles as a mobile support centre for our inspectors. The unit gives the roadblock team better capability in remote areas with amenities and equipment allowing self-sustaining operations – working for longer periods in remote areas, which otherwise would have been difficult.

The air-conditioned vehicle has an interview room to allow inspectors’ roadside interviews and a communications booster ensuring access in isolated locations. The unit also deploys the Vehicle Inspection System (VIS), to test brakes, suspension and steering on a vehicle. The VIS identifies defects not detectable in a normal visual inspection. When it is not on the road, the Mobile Operations Centre is used at community events where the public can learn about the services we offer.

National Roadworthiness Survey

Our Compliance sections’ primary role is to ensure heavy vehicles comply with legislation, providing safety for road users and protecting the road network through intelligence-driven enforcement activities, auditing and education. As part of a National Heavy Vehicle Regulator (NHVR) initiative, we participated in the National Roadworthiness Survey alongside other partner agencies across Australia. Conducted over 12 weeks, the survey involved the inspection of combinations of heavy vehicles, including rigid trucks, buses and special purpose vehicles.

The survey sought to carry out a mechanical safety and health check of Australia’s heavy vehicle fleet. It will play an important role in assessing the changes to the condition of the heavy vehicle fleet since the inaugural baseline survey in 2016. It will also allow the NHVR to target safety programs at key areas.

The past five years have seen considerable improvements in vehicle technology, the role of safety systems and investment in developing safety practices. However, the importance of a daily safety check, as part of a driver’s pre-trip routine, remains constant and was reinforced during this period.

Facilitating improved OSOM Traffic Escort Warden Service capacity

Following the announcement of the expansion of mining activities in Western Australia, and after the success of our partnership with BHP in 2020, we have been negotiating Standby Traffic Escort Services Agreements with other mining companies.

Traffic Escort Wardens (TEW) are required to escort larger, higher risk, oversize vehicle movements. Companies, such as BHP approached HVS seeking guarantees that TEW would be available. Delays can have significant impacts on their projects.

In response to this, we developed the Standby Traffic Escort Services Agreement. We administer traffic escort services, scheduling and allocating TEW generally on a first-come, first-served basis. The agreement provides an assurance TEW will be available for the project duration, when required. It gives the ability to plan for demand, committing to timeframes with increased confidence.

In BHP’s case, four dedicated TEW were provided for the South Flank project, involving movement of more than 200 modules. The situation demonstrates our work with industry, improving our processes and achieving better outcomes for all.

Planning and Technical Services

Timber Bridge Inspection work on Garrett Road Bridge

We are responsible for the inspection of 1,200 ageing timber bridges, with some almost 100 years old and heritage listed. Our bridge inspection processes have evolved as the timber has aged.

The Garratt Road southbound bridge in Bayswater recently underwent its routine level-two detailed inspection. The drainage pipes were found to have discharged water directly onto the outermost timber beams and combined with prevailing weather led to longitudinal splitting allowing water in, and accelerating decay. Our new approach of observation and sounding identified this and a number of other defects including internal piping behind an outer shell of solid looking timber.

Data provided directly by the on-site team was used to develop load rating analysis models to assess the deterioration. Results indicated that we needed to implement actions ensuring the safety of our customers whilst further work was done. This has allowed us to consult and consider heritage concerns with the Department of Planning, Lands and Heritage, in designing longer term treatments typically used to preserve and protect aging timber.

Perth Transport Model

A review of transport modelling in 2013 determined how best to meet the needs of different agencies into the future. This consultative process identified several issues and limitations in the current transport-modelling framework. Following the review, we started work on a new Perth Transport Model. The project will see the creation of a new integrated, tour-based – travel determined by movements from home, to a variety of destinations and then back home – modelling system that includes the following components:

- a tour-based person-modelling platform that better represents likely modes of transport to meet travel demand
- a tour-based commercial vehicle-modelling platform
- an analytical dynamic traffic assignment capability for the Perth metropolitan area.

Underpinning the development of the model is the delivery of two key transport data surveys, which were last undertaken in 2002–05. The Perth Area Travel Household Survey is in its third year of collection and will be completed in June 2023 whilst the Commercial Vehicle Survey will be completed in early 2022. The implementation of the model will lead to improved outcomes in policy and strategic decision-making, infrastructure investment planning and delivery, and network operations.