Sustainability Supplement: Additional Disclosures

Main Roads Annual Report 2021

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Contents

About the Sustainability Supplement

This supplement provides additional supporting disclosures for our 2021 Annual Report. This will clarify sustainability within a Main Roads context by providing further explanatory information and data on our material issues. These issues and topics are linked to the Global Reporting Initiative (GRI) indicators, and a table conveying how each GRI indicator has been addressed or omitted can be found in the Downloads Section of our 2021 Annual Report.

1 Introduction and Context

1.1 Defining Sustainability

Sustainability within our context is defined as a commitment to 'creating lasting benefits through an integrated consideration of social, environmental and economic aspects in all that we do'. Another way of stating this is that we meet the needs of today's generation without compromising the needs of future generations. Our interpretation of sustainability is based on the definitions within the State Sustainability Strategy 2003. For further information refer to our website.

1.2 Challenges and Trends

Our organisation faces a number of challenges and trends that impact the way we deliver and address the development of a sustainable road network. The following are all considered in all of our project planning, construction, and operation processes, with the aim to overcome issues associated with each challenge or recognise the opportunity to improve overall outcomes.

1.2.1 COVID-19

A key challenge for the State has been overcoming the negative impacts of the COVID-19 pandemic on the international, Australian and Western Australian (WA) economy. At a local Western Australian level, we at Main Roads have continued to support broader economic outcomes, with a number of road projects being funded and fast-tracked to catalyse the State's COVID-19 economic recovery, and to continue to provide ongoing employment within the communities we serve. The transition to new ways of working and collaborating throughout industry, and state and local governments has continued to present challenges for our workforce.

1.2.2 Road Safety and Traffic Management

At Main Roads we continue to find ways to increase the safety of the state network, and reduce any burdens on our communities. Through our major projects and road safety programs, we are able to directly target and upgrade roads or network locations that are considered high risk on the state network. These road safety programs include the State and the Australian Government Black Spot Program.

We also control traffic management for major events and in emergency situations to ensure road space to enhance safety and road efficiency.

1.2.3 Community Impacts

Our works and operations impact communities living or working within close proximity to our construction sites. Acquisition of property, noise, vibration, and business continuity are examples of issues that need to be carefully managed, require stakeholder engagement and impact our role as 'good neighbours'. This is an ongoing issue and we continue to evolve our approach to undertaking our works so that any negative impacts are minimised and we can also leverage any opportunities for stimulating local economies.

1.2.4 The Circular Economy

The rise in importance of the circular economy in WA in recent years is changing the flow of materials through our economy and industry. The updated Waste Avoidance and Resource Recovery Strategy 2030 has a large focus on recovering and reusing construction and demolition materials to enhance the circular economy. Increasing the use of recycled input materials for road construction is also key to reducing our overall environmental burden. We have experienced a lower than expected uptake of the use of recycled materials within our industry and we are continuing to work within our industry to normalise the use of these materials.

1.2.5 Public Health and Employee Well Being

We highly value public health, the health of our employees, and contractors and are continually trying to improve these areas. We may impact public health through exposure to contaminants, hazardous materials or poor air quality, and these instances of breaches are reported publicly through the media, especially when the construction industry breaches public trust in health security of construction materials used. We ensure all materials used in road construction are not imposing undue risk of exposure to contaminates, or substances that increase health risk. These processes include our set of specifications for material use, audits and contract conditions.

1.2.6 Traditional Owners

We acknowledge the traditional custodians of WA lands and aim to protect Aboriginal cultural values where possible. We recognise the unacceptable level of disadvantage in living standards, life expectancy, education, health and employment experienced by Aboriginal peoples. We are committed to making a change in our industry and progressing reconciliation through our Reconciliation Action Plan. We are committed to increasing Aboriginal employment in our workforce, which reflects the proportion of Aboriginal peoples within the populations of our regions.

1.2.7 Climate Change

Climate Change continues to be growing issue for our organisation. Our infrastructure investments can have a design life of up to 100 years, which falls within the time horizon critical climate change hazards are likely to be experienced. The impacts likely to affect the south west of WA (including the Perth metropolitan area) include decreasing winter rainfall, increased overall temperatures, increased hot spells, increased frequency and intensity of storms/extreme rainfall events, and sea level rise. The latest IPCC Sixth Assessment Report has provided evidence that the planet is already observing the impacts to climate change, which for Main Roads is impacting our operations and approach to incident response.

The release of the WA Climate Policy, together with the aspiration for WA to be Net Zero by 2050, is shaping our approach to climate change mitigation within our organisation and through our supply chain. Internationally, transport agencies are being delegated broader responsibility to improve air quality within urban areas, including the reduction of greenhouse gas emissions from the use of transport networks. With this in mind, we expect great scrutiny on how we provide services that assist the economy to transition to lower emissions transport such as low and zero emissions vehicles.

1.2.8 Electric Vehicles

Released alongside the WA Climate Policy, the State Electric Vehicle Strategy supports the transition from internal combustion engine vehicles to electric or more broadly, low and zero emission vehicles. The electrification of transport will be a disruption with our overall transport system including the civil construction industry but enable emissions to be substantially reduced from the transport sector. Further, electric vehicles could also improve amenity through lower noise, reduced air pollution and health impacts in urban areas. They may also improve fuel security and transport affordability. However, large portions of our funding is linked to fuel excise which electric vehicles currently do not pay.

2 Spotlight on Sustainability

In 2020/21 we have continued to drive the implementation of sustainable initiatives on projects across the whole network, achieving significant milestones across the state. The below highlights outline our achievements and how they have benefited the community, the environment, and the economy.

$3.4m Buy Local Spend on Albany Ring Road

50% reduction in scheme water evaporation on the Coolgardie Esperance Highway Upgrade

11% spend on Aboriginal businesses on the Leach Welshpool Interchange

91% of our construction materials were diverted from landfill to recycling

1260t of carbon equivalent emissions saved on the Roe Kalamunda Interchange

2753t of crumb rubber from recycled tyres used on the road network

46132t of crushed recycled concrete used on a number of projects

16 projects currently pursuing ISC Planning, Design, and As Built ratings

2.1 Main Roads and the Infrastructure Sustainability Council

We have continued our relationship with the Infrastructure Sustainability Council (ISC) to incentivise the implementation of sustainable initiatives across all of our major projects, in planning and construction. All of our projects valued over $100m are pursuing Planning, Design and As Built IS Ratings.

The following projects have received verified ratings from ISC:

- Great Northern Highway Muchea to Wubin
- NorthLink WA
- Armadale Road, Murdoch Activity Centre, and Wanneroo Road Duplication (Metropolitan Roads Improvement Alliance Program)
- Armadale Road North Lake Road Bridge
- Great Eastern Highway Bypass Interchanges
- Bunbury Outer Ring Road (planning rating)
- Mitchell Freeway Extension: Hester to Romeo (planning rating)
- Albany Ring Road (planning rating)

There are currently five projects undergoing a Planning rating and 11 undergoing Design ratings. This is the most amount of registered ratings we have ever had with ISC at one point in time. Our projects have implemented sustainability initiatives across various aspects including water use, waste reduction, energy, recycled materials, stakeholder and community engagement, and sustainable procurement. Pursuing opportunities within these areas allows us to go beyond our business as usual practices on our projects to deliver enhanced outcomes in the planning and construction phases of our major projects.

We use the IS tool to guide our projects valued between $20m-$100m to implement sustainable practices where the scope can limit the extent of outcomes. Planning is also underway to prepare for the use of the IS Essentials tool on our projects valued between $5m-$99m within the next financial year. IS Essentials is a new product under the IS Rating Scheme that will be more accessible, scalable and cost effective for projects within this cost range. We are looking to pilot the tool on five of our projects including Great Eastern Highway Wooroloo Upgrade, Great Northern Highway Apple Street Roundabout, Smart Freeways Mitchell Southbound: Reid Highway to Vincent Street, and the Causeway Pedestrian and Cyclist Bridge, with the fifth project yet to be decided.

2.2 Supporting the Climate Change Policy and Electric Vehicle Strategy

In response the WA Climate Policy and the State Electric Vehicle (EV) policy, we have been working to create internal guidance that will support our response in aligning with these strategies. To support the WA Climate Policy, which aspires WA to achieve net zero greenhouse gas emissions by 2050, we at Main Roads are producing a Net Zero Transition Plan that will establish cost effective, timely, and practical actions to put Main Roads on the pathway to net zero emissions by 2050. The plan will be aimed at improving our emission profile, primarily targeting our business and operations, i.e. emissions generated from our buildings and directly managed infrastructure. We will also consider our scope 3 emissions from project construction, material use and from the use of the road network. Our Main Roads Net Zero Transition Plan is scheduled to be released in 2022.

In support of the EV Policy, we are obligated to ensure that 25 percent of our eligible Main Roads Fleet Vehicles are electric by 2025/2026 to meet the State Fleet target outlined in the policy. In July 2020, our Mitchell Freeway Extension: Hester Avenue to Romeo Road Project team test trialled an EV to support the these upcoming State Fleet targets. The Project was selected to pilot trial having an EV quota on major construction projects. The Project has purchased two Hyundai Kona vehicles for the fleet, as well as two 22kw chargers provided at the site office. The results of this pilot trial and further research into utilising electric vehicles will influence how EVs are incorporated into our Fleet and future projects.

3 Material Sustainability Issues

Each year we undertake a corporate materiality assessment to understand what the most significant issues are, relative to our impact (both directly or in-directly through our supply chain or from our customers) and its importance to our stakeholders including the whole Western Australian community. Material issues are identified through a series of workshops and research by our employees with expertise in fields under fall under the economic, social and environmental aspects of sustainability within a Main Roads context. For our material topic visualisation, compilation process and for indications of where the greatest impact is within the value chain please refer to our Annual Report.

Following is an explanation of the material topics and how we manage the various issues. The topics are listed in ranked order from highest materiality score to lowest.

3.1 Road Safety (Customer Health and Safety)

There is a safety risk associated with the use of the road network. In 2020/2021, WA had 5.8 road deaths per 100,000 population per year. The national average was 4.5 road deaths per 100,000 population, putting WA over the national average. We believe no one should die or be seriously injured on the WA road network, and we will manage the network to decrease the likelihood of road trauma to all road users.

As the state road agency in WA we are custodians of the approach to road safety in road infrastructure. We are expected to systematically address the high risk areas across the road network. Through the Road Safety Commission, the *Road Safety Strategy 2020-2030* has been developed.

A key aspect of this Strategy is the Safe System Approach, which outlines the need to develop road infrastructure to be more forgiving when crashes occur. The Approach acknowledges that human error on the road network is inevitable, and making allowances for these errors is likely to minimise the risk of serious injury or death. This Approach flows through most aspects of what we do including project prioritisation, road design and design standards and road safety auditing.

The Safe System approach is based on developing all aspects of road design to make them safer, including;

- Safe roads and roadsides
- Safe speeds
- Safe modes of transport
- Safe behaviours and emergency medical response

Road Safety Management (ROSMA) is a framework that enables Safe System principles to be applied to all projects and activities that affect the WA road network. The adoption of ROSMA helps us meet our state and national targets for road trauma reduction. It is built in line with ISO 39001 for Road Traffic Safety and drives best practice in the application of Safe System principles to projects and activities. ROSMA was launched in June 2016 and hundreds of employees have completed ROSMA operator training. Main Roads is committed to implementing the state strategy – Driving Change - Road Safety Strategy 2020-2030 through the establishment of road safety as one of its cornerstones in our corporate plan. Our commitment to road safety is defined in the

Main Roads Road Safety policy.

Furthermore, the way our communities currently use and access the road network has adverse impacts on human health. It is recognised that globally, every year more people die from vehicle emissions than from road accidents. Improving transport mode choice has implications for improved health and more active lifestyles, as currently 60 percent of Australian adults are getting less than the recommended 30 minutes of moderate intensity physical activity every day. Providing facilities for active transport can be one way of addressing the issue.

3.2 Congestion and Freight Productivity (Indirect Economic Performance)

Reducing negative impacts to our community and economy from congestion of the road network, and providing better access for our freight customers to improve productivity is one of our core objectives to deliver. We deliver this through prioritising projects that will bust congestion, manage road traffic policies and practices (such as traffic signal timing) that facilitate the safe and efficient movement of traffic, and manage all planned and unplanned events on the road network to optimise traffic flow and minimise disruptions. More than $6.5billion has been committed to major transport infrastructure projects over the next two years.

Indirect economic impacts (investment and non-investment) are considered in the selection phase of our major projects. We use a Needs Identification Framework which includes consideration of safety, travel experience, accessibility, amenity and reliability to highlight deficiencies on the network. This method ensures we aren't just looking at asset deficiencies – but focuses on the values of the outcome that the asset delivers. This framework also ensures our rural and remote communities are considered in this selection phase and identifies the needs of these communities. We also consider access to community infrastructure (schools, hospitals, stadiums, etc) through collaboration with the relevant government agency (Health department, Education Department, Sport and Recreation).

At Main Roads, we have adopted the Treasury Prioritisation Methodology to prioritise potential projects from an investment and funding decision. Business case guidelines detail the minimum requirements from investments from both a State and Commonwealth perspective. We include in-direct economic benefits that are outside the scope of the usual benefit cost assessment by including wider economic benefits in submissions.

We have adopted a post project evaluation framework to measure project success – a Benefit Realisation Framework. This ensures we are achieving the intended Key Performance Indicators (KPIs) and outcomes from project investment. This Benefit Realisation Framework is endorsed by Australian Transport Assessment Planning (ATAP) and is a key feature of ISC's V2.0 Rating Tool.

3.2.1 Busting Congestion

Busting congestion is a key focus of a number of our projects as well. In August 2020, we opened Perth's first Smart Freeway, with the Mitchell Freeway Southbound: Hester Avenue to Vincent Street Smart Freeway project on track to commence construction in early 2022. This is a 36km stretch of road where 16 freeway on-ramps will be modified to include ramp signals to improve traffic flow, alleviate traffic congestion, improve journey time reliability, and improved road safety. The project is also expected to support sustainable economic development in the northern corridor for businesses and residents.

The Tonkin Highway corridor has been a key focus of our works and will continue to be in the next financial year. The corridor is being upgraded from Muchea to Mundijong through Projects currently in operation, construction and development to deliver a high standard, north-south transport link in the east of the Perth Metropolitan area. Projects in planning include the Tonkin Highway Grade Separated Interchanges where Tonkin Highway intersects with Hale Road, Welshpool Road and Kelvin Road. Construction on the Hale Road and Welshpool Road grade separations is due to commence in mid-2022, with Kelvin Road scheduled for mid-2023. The Tonkin Highway Extension from Thomas Road to South Western Highway is also in development, with detailed design due to wrap up and construction due to commence in 2022.

The Tonkin Gap Project is under construction with the aim to remove the congestion that currently forms at the bottleneck where Tonkin Highway is reduced from three lanes down to two in Bayswater and Redcliffe. The Project runs from Collier Road to Dunreath Drive, and is set to reduce travel times, improve safety, and increase access for road users, pedestrians, and cyclists.

3.3 Good Public Policy

As a Statutory Authority we must ensure there are clear and transparent relationships between the elected government, preventing any undue influence in the administration of the public function. This also ensures efficient implementation of government policies and strategies.

The Public Sector Commission provides direction and guidance to Main Roads on what constitutes good governance in the Public Sector. A number of mechanisms are in place to inform agencies of direction and disseminate information. This includes Commissioners Instructions and Public Sector Commissioners Circulars.

3.4 Biodiversity & Compliance with Environmental Legislation

We acknowledge that our actions have the potential to cause negative environmental impacts to WA's unique environment. Our State has unique flora and fauna which may be impacted by our operations, given our road network transects sensitive and protected environmental areas. Our road network also transects sensitive and protected environmental areas. Details of these areas and threatened species is available on our website. The table below conveys the number of threatened species with habitats located in our road reserve.

IUCN Classification	Flora	Fauna	Total
Critically Endangered	32	5	37
Endangered	26	20	46
Vulnerable	26	19	45
Near Threatened	590	35	625
Total	674	79	753

Our network transects significant conservation areas including:

- Environmentally Sensitive Areas
- Vegetation of Low Representation
- Threatened Ecological Communities
- Bush Forever Sites

- Black Cockatoo Species
- Ramsar Wetlands and Department of Biodiversity Conservations and Attractions (DBCA) Managed Lands
- Significant Fauna Species Habitat

We use the precautionary principle in our approach to environment and heritage, aiming to avoid and minimise impacts wherever possible. This principle is built into our internal processes and Western Australian environmental legislation. We screen all of our activities and works for potential environmental impacts, including positive or negative changes to the values of our environment. Values impacted may include: physical features (land, water and air); biological (flora and fauna); cultural and heritage related Aboriginal and European values; and socio-economic and human-health values.

If potential impacts are negligible then the activity is implemented using standard management measures. If potential impacts are identified, the activities require further impact assessment. We operate on a hierarchy of avoid, minimise, reduce and offset our environmental impacts. We achieve this through changes in scope and design, and the development and implementation of an Environmental Management Plan (EMP) and an Offset Proposal.

Where the environmental impacts are likely to be significant, we refer our projects to be assessed by the relevant regulators such as the Commonwealth Department of Agriculture, Water and the Environment (DAWE), the Western Australian Environmental Protection Authority (EPA), or the Western Australian Department of Water and Environmental Regulation (DWER). The regulator will decide whether or not to assess the project. Where the regulator does not assess the project, it is implemented in accordance with the relevant EMP. Where the regulator assesses the project, it is subject to a comprehensive Environmental Impact Assessment and may be open to extensive public and community consultation. We do not implement those projects assessed by the regulators until they meet relevant approval conditions.

We also work closely with DBCA to identify suitable environmental offsets and obtain approval. Offsets approved by DAWE can be identified in the project's approval conditions which are available on the DAWE website. Offsets that are approved by the EPA or DWER are advertised on the Government of Western Australia Environmental Offsets Register which is available on the DWER website.

We manage our operations using a systematic approach in which all of our activities are screened for potential environmental impacts. Environmental impacts are the consequences of implementing an action and can include the positive or negative changes to the following environments: physical (eg. land, water and air); biological (eg. flora and fauna); cultural (eg. Aboriginal and European heritage and culture); socio-economic; and human-health values, of our environment.

Following are further explanations of specific environmental aspects that managed overall through the above approach to environmental management.

3.4.1 Revegetation and Landscaping

Revegetation and landscaping is standard practice on our projects to counteract the impacts of vegetation clearing and/or soil disturbance and to help retain and enhance the environmental values of roadsides. We have a proud history of undertaking revegetation, over many years, with awards for innovative revegetation along roadsides dating back to the 1980's. All of our major

projects must develop and implement a Revegetation and Landscaping plan adhering to specifications. Read more about these specifications in our online Technical Library.

3.4.2 Discharges to Water and Water Run-off

Our operations results in very little discharge of water. In WA, the discharge of water is regulated through the Environmental Protection Act 1986 and the Rights in Water and Irrigation Act (1914) and in the event we were required to discharge water, we would obtain the appropriate approvals prior to discharge.

Where there are direct linkages between storm-water and sensitive receivers, pollutant traps have been installed to prevent adverse impacts to the wetlands. Locations include:

- Lake Gwelup from Karrinyup Road;
- Swan River from Reid Highway; and Great Northern Highway;
- Swan River from ~20 outfalls along Kwinana Freeway;
- Canning River from Leach Highway;
- Booragoon Lake from Leach Highway; and
- Quenda Wetland from South Street.

The treatments include interception of gross pollutants/rubbish, sediment, nutrients, heavy metals and hydrocarbons. Apart from Kwinana Freeway outfalls, the above outfalls also have the capacity to trap hydrocarbon spillages up to 19000L.

There are several sites where a pollutant trap system is being designed to prevent potentially significant impacts, though these areas have not been confirmed as being "significantly affected". Locations include Bull Creek from Leach Highway (one outfall near Bull Creek Drive) and Canning River from Canning Highway (one outfall west of Canning Bridge).

The Southern Lake at the Narrows Interchange is an artificial sump that collects storm-water from Mitchell Freeway and Mounts Bay Road, contains nutrient-rich sludge, heavy metals and hydrocarbons, and is directly connected to the Swan River. However, this sludge is being removed, and there is a weir structure that retains water and hence pollutants within the Lake.

For other road runoff; local sumps, compensating basins, infiltration basins and swales have been specially constructed to process storm-water, separating it from sensitive water receivers.

3.4.3 Noise and Vibration

Management of road traffic noise is an important issue as traffic growth continues. Noise is produced and influenced by the road network in a number of ways including from vehicles, infrastructure and road design, construction and maintenance activities. Our major projects must develop a Noise and Vibration Management Plan during construction. These plans are made publicly available on our website. Each plan outlines how construction noise will be managed throughout the duration of the project, including outlining existing sensitive receptors to noise and vibration, and how impacts on the local community will be mitigated. We also have a 'Requirements for Road Traffic Noise Assessments' document publicly available that aids acoustic consultants and developers to ensure project traffic and construction noise complies with *State Planning Policy 5.4*.

3.5 Regional Presence & Development (Market Presence)

We are one of the most geographically dispersed road agencies in the world, responsible for more than 18,600 kilometres of road spread over 2.5 million square kilometres. We operate from eight regional locations throughout WA.

Our rural operations can have significant impacts on regional towns, communities, and their economies. Our regional presence grants us the opportunity to positively impact Indigenous Australian communities as a higher proportion of our regional population is Indigenous compared to the metropolitan area. Indigenous employment and engagement are becoming key elements of our project funding conditions and requirements.

The regional towns in which are operations are located have comparatively low populations and therefore smaller economies and availability of industries. Our business activities can contribute to the economic activity of any of our regions but the impacts are more significant in our regional locations.

Fly in, fly out operations across all industries continues to be a key trend impacting regional towns and makes our continued commitment to regionally based services all the more important. Several of our major infrastructure projects have fly-in, fly-out work forces. Having these types of work forces may diminish the impact of various policies driving local procurement and increasing local workforce.

3.6 Workforce Safety & Health

A predominant amount of our workforce is directly engaged in road construction activities. Our contract workforce work environment interfaces with the road environment, moving traffic and heavy machinery. The construction industry itself is characterised by activities that are considered high risk from a safety perspective. According to Safe Work Australia the construction industry is consistently among the top industries with the highest number of serious incidents, and in the last five years it had the third highest incident rate of all industries, behind Transport (first) and Agriculture (second).

Throughout our business – including on our projects and maintenance works - we aim to influence safe practice where we have a principal-contractor relationship. We require our contractors to provide safety related information including the reporting of serious incidents and reporting to our external bodies such as WorkSafe or EnergySafe if required. Safety of our staff working directly and indirectly on our projects is managed within our Safety Health and Wellbeing management system, which is maintained in accordance with AS 4801:2001 Occupational Health and Safety Management System. It is also in compliance with the Occupational Safety and Health Act 1984.

All of our major projects valued over $250,000 provide a Monthly Safety Indicator report that includes information that is collated to form our corporate dashboard:

- Number of Lost Time Injuries
- Number of serious incidents
- Serious incidents that were reported in 24 hours
- Contractor hours
- Number of hazards closed out within 30 days.

Main Roads WA maintains road safety statistics related to people that are under the direct and indirect control of Main Roads, through the Workers' Compensation and Injury Management Regulations 1982. Any statistics and details for fatal and serious injuries will be picked up through the Police reporting mechanism and be processed by our Road Safety Branch.

Our strategy for reducing fatal and serious injury crashes on the State road network is focused on the areas that Main Roads can directly influence, which are:

- Ensuring that projects implemented on the State road network are assessed, selected, developed and delivered with the aim of reducing death and serious injury
- Developing and delivering effective road safety treatment programs
- Operate and implement policies that manage the risk of being killed or seriously injured on our roads or while working directly or indirectly for Main Roads

3.7 Indigenous Heritage and Native Title

We acknowledge the traditional custodians of WA's lands and aim to protect Aboriginal cultural values where possible. We recognise that there is an unacceptable level of disadvantage in living standards, life expectancy, education, health and employment experienced by Aboriginal peoples. We are committed to making a change in our industry through progressing reconciliation. We are increasingly being ask to take the lead in our regional areas and contribute to increasing the level of aboriginal employment as a result of our contracts. We have developed an Aboriginal heritage process that ensures compliance with Western Australia's Aboriginal Heritage Act 1972. We work closely with other state government agencies including the Department of Planning, Lands and Heritage (DPLH) and the Department of Premier and Cabinet, as well as Aboriginal people, to ensure our Aboriginal heritage processes are robust.

We aim to avoid, minimise, and reduce our negative impacts to Aboriginal heritage sites wherever practicable. All our activities are screened for potential impacts in compliance with the DPLH Due Diligence Guidelines using our internal Aboriginal Heritage Risk Assessment process. Where this process identifies a potential risk of impact to an Aboriginal heritage site, further investigations are undertaken.

Earlier this year, we released a new Innovative Reconciliation Action Plan (RAP) for 2021-2023. This plan provides a framework for our organisation to address the five reconciliation dimensions: Race Relations, Unity, Equality and Equity, Institutional Integrity, and Historical Acceptance. The 2021-2023 RAP builds on our previous RAPs to guide how we can promote reconciliation throughout our business activities in this next period. Key methods of how we will embed reconciliation into our business will be through implementing longer term strategies, working towards defined measurable targets and goals, aligning our reconciliation outcomes to our corporate planning and strategy process, and embedding reconciliation initiatives into our Diversity Framework.

We value the input and contribution of Traditional Owners and seek their advice and opinions regarding potential impacts via site surveys and other consultation processes. In our endeavour to protect Aboriginal cultural values we also liaise with other stakeholders including Prescribed Body Corporates, Native Title Representative Bodies and Aboriginal Corporations and we directly engage with relevant community groups and Traditional Owner informants.

Where it is not possible to avoid impacts to an Aboriginal heritage site, we will seek consent and

works will not progress without approval from either the Registrar of Aboriginal Sites or Minister for Aboriginal Affairs.

Read more about our commitment to Aboriginal Heritage and Native Title.

3.8 Procurement Practices

We rely on our supply chain to deliver tasks critical to our overall success. Last year, we engaged with over 6,124 suppliers and made in the order of $2.217 billion in payments. Our indirect supply chain is again more extensive with our construction projects engaging with multiple sub-contractors and suppliers. We are aware that our terms of payment can impact the cash flow and solvency of various businesses and seek to minimise those impacts. We also leverage our relationship with our suppliers to deliver priority government policy which includes training, Aboriginal engagement and supporting local business.

The State Supply Commission Policy of sustainable procurement requires us to demonstrate that we have considered sustainability in our procurement of goods and services. We have gone beyond the requirements of this Policy to reflect this in our processes for procuring goods and services and works. We apply the Western Australian Government's Buy Local Policy on our projects, allowing us to consider and give preference to local providers in our purchases as the benefits to the local industry development and employment are recognised. Buy Local Policy clauses are included in all our tender documents and tender assessments. In addition we promote social procurement initiatives such as: direct purchasing from Aboriginal Businesses; using WA Disability Enterprises to provide works, goods and services; and giving recognition to our contractors who employ Aboriginal people and businesses. In 2018 we introduced contractual requirements for Contractors to employ Aboriginal People and subcontract to Aboriginal Businesses. This includes mandating minimum employment and subcontracting percentages that must be met in the delivery of works.

3.8.1 Sustainable Procurement & Industry Sustainability

We apply a number of policies to assist us develop a culture for sustainability through our supply chain and improve overall outcomes for sustainability.

The State Supply Commission Policy on sustainable procurement requires us to demonstrate that we have considered sustainability in our procurement of goods and services. However, we have gone beyond the requirements of this policy to reflect this not only in our processes for procuring goods and services but also in procuring works. In addition, we apply the Buy Local Policy where we consider and give preference to local providers in our purchases as the benefits to industry development and employment are recognised. Buy Local Policy clauses are also included in all our tender documents and tender assessments.

We support the recent changes to the State Supply Commission's Open and Effective Competition Policy which allows for exemptions to the minimum competitive tender requirements where there are opportunities to purchase from Australian Disability Enterprises and Registered Aboriginal Businesses. We have incorporated these policy changes into our business processes and are encouraging our people and our Contractors to support these organisations. These organisations are listed on the Aboriginal Business Directory and on the Australian Disability Enterprises website.

Industry Sustainability Plans have been incorporated into major projects to manage impacts and leverage opportunities for sustainability or social responsibility within project supply chains.

Sustainability aspects within supply chain include environmental risk, local economies or businesses, workforce development, equal opportunity and Aboriginal participation. It is intended that these plans will draw attention to the impact projects can have within their supply chain and build culture within the industry.

3.8.2 WA Industry Participation Strategy

The Western Australian Industry Participation Strategy (WAIPS) was developed to support objectives outlined in the WA Jobs Act 2017. The aim of the WAIPS was to ensure local businesses have a fair opportunity to win State Government supply contracts. All State Government agencies and departments must adhere to the WAIPS to achieve the WA Jobs Act objectives. These objectives are outlined below:

- Supporting the growth of the WA economy through supporting supply opportunities for local industry
- Providing suppliers of goods and services with knowledge of local industry capabilities
- Training local industry to adapt to new workplace innovations, materials, and technologies
- Create awareness around increasing job opportunities, training, and apprenticeships
- Promoting increased opportunities for local industry to develop import replacement capacity by giving local industry, in particular small or medium enterprises, a full, fair and reasonable opportunity to compete against foreign suppliers of goods or services (Government of Western Australia. 2017)[1].

3.9 Local Communities

We understand major infrastructure projects can create significant change and disruption, both permanent and temporary. Issues such as land acquisition, environmental impacts, construction traffic and workforce nuisance and local business continuity affect our reputation and performance as a 'good neighbour'. We engage with local businesses during the planning, development and construction phase of our projects to ensure we remain 'good neighbours'. Plans are developed to ensure these businesses can remain operational, by minimising impacts (including maintaining their access). We also aim to mitigate impacts the contract workforce may have, including extra traffic from vehicles, accidental damage to property, litter, and general public disturbance.

Furthermore, the type, form and design of the infrastructure that is delivered can have significant impacts on the urban fabric and liveability of local communities or precincts and on-going socio-economic impacts. While it is not always possible to achieve universal satisfaction we work closely with our stakeholders and the community, to reach mutually-beneficial outcomes wherever possible based on the established principles of openness, transparency and proactivity.

A major impact of delivering State significant infrastructure is our need to acquire land in situations where it is already utilised for other purposes such as residential property. Land is acquired by negotiation or formal taking action under the powers contained in the Land Administration Act 1997. Land required is previously identified within the Metropolitan Region Scheme or a Planning Control Area.

[1] WA Industry Link (Government of Western Australia). 2017. Sourced from http://industrylink.wa.gov.au/about/western-australian-industry-participation-strategy.

The process of acquiring land can have significant community and social impacts which need to be managed. Main Roads will initiate land purchases by voluntary negotiations when funding is available. In some cases, where construction is imminent, acquisition may take place by formally taking action. Property owners are entitled to compensation and have the power to object to the Minister of Transport. Generally, land is acquired two years prior to construction.

3.9.1 Facilitating Public Transport Infrastructure

In light of the Premier fast tracking $2.3 billion worth of projects, the Office of Major Transport Infrastructure Delivery was created to deliver all transport projects valued over $100 million. This includes the Public Transport Authority and their teams working on METRONET projects including the Thornlie-Cockburn Link, Yanchep Rail Extension, Morley Ellenbrook Line, Bayswater Station and the Byford Extension. A number of these METRONET works fall under the construction of Main Roads projects, for example, the Tonkin Gap Alliance will be delivering the Tonkin Gap project and associated work for the METRONET Morley-Ellenbrook Line.

Our major projects that are allowing for METRONET works include the Thomas Road Bridge Over Rail, the Karel Avenue Upgrade, Tonkin Gap and Associated Works, Armadale Road to North Lake Road Bridge, and the Mitchell Freeway Extension.

In addition to this, we have adopted a partnership approach with PTA to ensure the smooth delivery of infrastructure (e.g. dedicated bus lanes) on local and state roads. This has seen a significant expansion of the bus lane network. In most instances, the dedicated lanes are also shared with other road users such as cyclists and taxi's, further adding to the benefit of reduced single passenger vehicle trips. This partnership has seen the delivery of a number of new bus lanes across the network, which has improved Perth's public transport system and encouraged more motorists to make the mode switch from vehicular travel to more sustainable types of transport.

3.9.2 Cycling and Pedestrians

We aim to achieve a safe, accessible and efficient road network as part of an integrated transport system for all road users. This includes pedestrians, people with disabilities, cyclists and the growing personal electronic transportation vehicle field (e.g. e-bikes, e-scooters and e-skateboards). Some of the specific initiatives that relate to sustainability that are targeted at improving pedestrian and cycling network access include:

- Developing a number of off-road facilities for cyclists and pedestrians to reduce conflict with traffic and provide safe travel. An example of this is the Fremantle Principal Shared Path from Victoria Street to North Fremantle, which is due for completion in October 2021;
- Conducting a trial of reduced speed limits;
- 30 km/h bike boulevards; and
- 40 km/h residential areas

Many of our major projects include a scope to improve the Principal Shared Paths (PSPs) along key transport corridors. We currently are upgrading PSPs along Kwinana Freeway, Mitchell Freeway, Stirling Highway and Tonkin Highway.

Visit our Paths and Cycling webpage for more information. Our Disability Access and Inclusion Plan also includes vital information about the installation of PSPs, and can be accessed on our website.

3.10 Job Creation

We directly employ 1,237 people, who are spread throughout our metropolitan and regional offices. Of this figure, 31 percent are female and 69 percent are male. Indigenous Australian Employees make up two percent of our workforce.

We have also made a commitment for a sustainable future workforce and have revitalised our employer brand and increased awareness of our development employee pathways. We welcomed 70 new employees in the 2021 Development Employee Program in the roles of Engineering Cadets, Engineering Associate Cadets, Graduate Engineers, Engineering Associates, Regional Engineering Associate Trainees, and Trainees.

Following the COVID-19 pandemic, we were asked to increase our delivery capability as part of an overall strategy to stimulate the creation and maintenance of jobs in the economy. Our investments are considered to have a multiplier of 2.3 for job creation, meaning every direct job created by our investments creates a further 2.3 in the economy. With a number of our infrastructure projects being fast tracked for delivery and construction, this number is expected to further increase within the next financial year.

3.11 Value for Money

We must make effective use of the government funding we receive to deliver our services to the community. We rely on a number of performance indicators to recognise the value created by our activities on the economy. In 2020/2021, we received $3 billion in funding and invested $1.2 billion in capital works on the State road network. The road network and construction industry has many flow on effects for our economy, particularly creating jobs and strengthening the post-pandemic economy. Improvements in road network efficiency can also lead to increases in the competitiveness of industries that rely on transport.

In early 2020 more than $8 billion of funding was allocated to transport projects over the next four years. The aim of this was to support the COVID-19 economic recovery, and led to Main Roads fast-tracking the tendering process for 11 major road projects in both regional and metropolitan areas in WA. Projects included the Bunbury Outer Ring Road, Mitchell Freeway Extension and Fremantle Traffic Bridge.

By increasing the connectivity and extensiveness of the State network, it is important to note that there may be negative in-direct economic impacts in optimising road-based transport that are related to equity. In 2019, middle-high income households in WA spent 11.5 percent of their income on transport each fortnight, compared with 12.5 percent for low-income households. WA's average fuel spend is $63 per week which is higher than all other states (bar NT).

Refer to the Our Performance section of the Annual Report for a full overview of how we provide value for money.

3.12 Anti-Corruption

We assess all our business units to identify any fraud and corruption risks. All employees are presented information on anti-corruption policies and procedures. Our organisational spend, extensive program of activities, number of suppliers and large asset base, could increase corruption risks without appropriate mitigation.

A report was completed by the Parliament of Western Australia in May 2020 that conveyed the corruption risks in public procurement in WA. Consultations and hearings were undertaken that outlined there is a requirement to change cultures within an organisation to prevent the risk of corruption, given it is a high risk process especially for organisations like ours that receive large amounts of State and Federal Funding for infrastructure delivery.

Internally, the Portfolio Integrity Policy complements our Integrity Framework and reinforces our commitment to effective fraud and corruption management and the promotion of a culture of integrity. Fraud and corruption risk workshops are held in each Directorate (or certain branches as appropriate) on a two year basis.

3.13 Road Building Materials

Natural materials are crucial in road building, so we encourage our project partners to recycle and reuse materials, and use recycled and 'environmentally labelled' materials in road construction and other activities.

When obtaining road building materials we endeavour to avoid clearing natural vegetation, particularly high value vegetation. On-site materials unsuitable for use in road construction are used (where appropriate) for rehabilitating areas where road building materials have been obtained from.

We are trying to enhance our positive effect on the circular economy by using and researching the use of waste construction and demolition waste. We have developed a Recycled Materials Reference Guide that outlines the different types of recycled materials we have used or have the potential to be used on our projects. The materials outlined in this Reference Guide include Crushed Recycled Concrete, Reclaimed Asphalt Pavement, Crumb Rubber, Crushed Recycled Glass, and Mining Overburden. Using these recycled materials is important given our road construction has been and continue to be a main user of materials in WA. The Reference Guide has been used by many Contractors external to Main Roads, including some who are undertaking their own research to increase their use of these materials.

Our use of these materials in society as a whole will support the Waste Authority's Waste Avoidance and Resource Recovery. The Strategy has been developed to "avoid waste generation, recover more value and resources from waste, and protect the environment by managing waste responsibly."[2]

We have continued our support of the trial programs and initiatives developed under the Waste Authority's Roads to Reuse Program. Through our support of this Program, we used over 28,000 tonnes of Crushed Recycled Concrete (CRC) on the Armadale Road North Lake Road Bridge Project,

[2]&[2] Waste Authority (Government of Western Australia) https://www.wasteauthority.wa.gov.au/images/resources/files/Strategic_Direction_Waste_Avoidance_and_Resource_Recovery_Strategy_2030.pdf

including under a new carpark for the Public Transport Authority (PTA). This was used in alignment with our CRC specification. In 2020/2021, we used 46,132 tonnes of CRC which was shy of our target of 200,000 tonnes, however we continue to work with industry to build acceptance of the product. We remain committed to building a market for the product including the Local Government.

We are also looking to create new methods of utilising crumbed rubber through the Western Australian Road Research and Innovation Program (WARRIP). Similar to use in sprayed bituminous seals, CRM bitumen in asphalt produces more durable roads that resist oxidation, cracking and ravelling. It also plays a key role in further reducing the large volumes of tyres sent to landfill each year. In 2020-2021, Main Roads used approximately 2,753 tonnes of crumbed scrap rubber across the State road network.

In 2019, the Council of Australian Governments (COAG) agreed Australia should establish a timetable to ban the export of waste plastic, paper, glass and tyres. The Australian Environment Ministers agreed that waste plastic, paper, glass and tyres that have not been processed into a value-added material should be subject to an export ban. This is to be phased in. The expectation to use these resources in infrastructure construction is increasing, and as an organisation we continue to undertake, support, and fund pilot trials that create sustainable pathways and uses of these materials.

3.13.1 Traffic Signals, Signs & Pavement Markings

Reducing sign clutter and reducing pavement marking like median infill contributes to using less resources. We continuously review existing standards and practices to reduce the amount of unnecessary signs and pavement marking across the network where it is safe to do so. Additionally, a process to identify potential sites for traffic signal removal and installation of alternate shared space treatments is currently under development. This will have flow on benefits for reducing our direct energy consumption and greenhouse gas emissions.

3.14 Climate Change, Energy & Emissions

Climate Change is a concern for our organisation for a number of reasons. Our infrastructure investments can have a design life of up to 100 years within the time horizon the critical climate change hazard will be experienced and our infrastructure is directly exposed to the risks of existing climate hazards. We have obligations to the broader Western Australian community to maintain a level of service by minimising road closure duration when the network is impacted by disruptive weather events. The WA Climate Policy is further obliging us to take action for both adapting to, and mitigating the risk of climate change.

3.14.1 Adaptation and Mitigation

We have been working towards developing new infrastructure that is adapted to facing the challenges presented by climate change forecasts. We are also working to minimise the effect of climate change on our current assets, while looking for opportunities to offer benefits or initiatives for the community of Western Australia.

Initiatives that are planned or underway include:

- Climate change risk assessments undertaken in project planning;
- Reviewing incident management procedures;

- Continuing review of current standards against impacts of climate change;
- Exploring options to offer benefits that counter climate change impacts;
- Adding climate change considerations to existing planning, development and delivery process reviews;
- Collaborating with stakeholders agencies to address shared climate change risks; and
- Educating specific employees and contractors on the impacts of climate change and ways to adapt the assets over time ahead of climate change.

Climate change considerations are being integrated into our design standards and our major roads are being incrementally adapted as upgrades or infrastructure investments occur. As part of our alignment with the Infrastructure Sustainability Council (ISC), we address the risks of climate change in the planning, design, and construction phase of our major projects. We also address and implement methods to best adapt our assets to these risks. Visit our Climate Change page to learn how we are adapting and mitigating against climate change and associated risks.

3.14.2 Renewable Energy

We support the use of renewable energy to reduce our carbon emissions but also to improve resource efficiency. We aim to utilise renewable energy where it is practical to install within our electrical infrastructure. On the network renewable energy installations include bus shelters, remote road lighting, emergency telephones and school crossing warning signs. We have also installed systems on our offices and staff housing. We will trial the use of renewable energy systems on our site offices. These assets and site offices have solar PV cells installed, and some assets are producing up to 10kwh of electricity per day. In 2020-2021, our installed renewable energy systems produced 997,271kwh of electricity.

Our major projects often address different options and initiatives to implement renewables throughout the design, development and operational phases. The following are examples of renewable energy used in the construction and operational phases of some of our projects:

- Smart Freeways Kwinana Northbound used solar lighting during the construction of the now operational emergency stopping bays.
- NorthLink WA Southern Section trialled a solar powered variable message sign using wireless communication technology. This was a pilot trial to determine the reliability of the solar powered technology and understand operational and maintenance costs.

3.14.3 Air Pollution and Emissions

In Australia, air pollution is assessed by measuring six main air pollutants: carbon monoxide, nitrogen dioxide, photochemical oxidants (as ozone), sulphur dioxide, lead and particles.
Urban air pollution is a known carcinogen and has a range of human impacts.
We adhere to legislated requirements in regards to managing air quality from our activities. Refer to our Environment page for further information on how we manage our overall environmental impacts. The State Government has a cross agency Air Quality Management Plan however we currently have no obligations under that plan.

We have a commitment to develop a data driven approach to address congestion based around agreed performance metrics and targets. We developed a cloud based data factory to collate and report road network performance data across major roads in metropolitan Perth.

The data system collates speed and volume information from multiple data sources across 4,300 links, which currently represent the Perth major road network. Data is recorded on each link for every 15-minute interval dating back to January 2013. This data system has been named the Network Performance Reporting System or 'NetPReS'. Using the Australian Transport Assessment and Planning Guidelines 2016 published by the Transport and Infrastructure Council, NetPReS data has been used to estimate emissions trends on state roads and significant local roads in the Perth metropolitan area. Main Roads takes action to directly manage the traffic flow of vehicles, which has consequences for the overall environmental impacts from the use of the road network that includes carbon emissions and air quality. The following tables reflect the impact that the roads we directly manage are having on energy use and emissions, which give an indication of the impact to air quality.

3.14.4 Emissions from Direct Operations Activities

We had a carbon reduction target of five percent of 2010 carbon emissions by 2020 that we achieved. We are now in the phase of producing our own Net Zero Transition Plan. This Plan will address how we will change our business activities to work towards the WA target of net zero emissions by 2050. This Transition Plan will also outline an approach to reducing carbon emissions within Main Roads activities, and actions proposed by asset owners on how to progress the next steps in our Carbon Reduction Plan. The Plan will also provide guidance for our Development and Delivery projects on achieving the three Energy and Carbon ISC credits.

A major action under our Carbon Reduction Plan has recently progressed with our continued support for electric vehicles (EV), plug-in and hybrid electric vehicles. As mentioned above, we continue to promote and encourage their use within our industry and community while we investigate opportunities to provide charging infrastructure and trial EV quotas on our major construction projects.

We will also look to reduce the expansion of certain asset types, such as traffic signals which tend to be utilised as a general congestion management option. We have adopted a policy that alternative treatments such as roundabouts or modified intersections to provide acceleration lanes will be preferred over traffic signalisation, as they provide significant road safety benefits and in most cases, assist with reducing congestion.

Our total emissions across our facilities during 2020-2021 was 29,154,262 tCO_2.

3.14.5 Electric Vehicles

Electric Vehicles align with our broad notion of promoting more sustainable travel as they reduce carbon, tail-pipe emissions and reliance on transport fuels, are energy efficient and produce low noise. They will be a significant contributor for achieving emissions reductions from transport and the use of the road network.

In our continued support for electric vehicles, plug-in and hybrid electric vehicles, we will endeavour to promote and encourage their use within our industry (hybrid plant) and community in general. In light of the recently released WA Electric Vehicle Strategy, we are currently exploring ways we can support this strategy and facilitate the greater uptake of EVs. The Strategy outlines a requirement for our Fleet to be made up of 25 percent EVs by 2025. To support this we are internally promoting the benefits of EVs, and also piloting an EV quota within our major project construction fleets. If successful, we will seek to implement a quota more broadly in the future.

3.15 Diversity and Equal Opportunity

We recognise and value the role of women in the workforce and gender diversity at all levels of the organisation as a business imperative. However, significant challenges are present in attracting and retaining women in the Civil Construction Industry.

According to the Workplace Gender Equality Agency data explorer, in 2021 the Heavy and Civil Engineering Construction Industry nationally employed over 62,159 people of which 14.9% were female. There is a 22.5% total remuneration gender pay gap for full time employees. In comparison 31% of Main Roads employees are female.

We ensure that our workforce is comprised of varied perspectives, viewpoints and backgrounds which is integral to our success. It is for this reason that we have developed our Innovative Reconciliation Action Plan 2021-2023. We are driving Aboriginal Employment through our supply chain and the Aboriginal Employment initiatives taskforce.

Through our projects and maintenance activities, we work to incorporate diversity and equality targets. Our projects may set targets to include a diverse group of people, and we carry this through to supply chains to engage companies with diverse foundations where possible. Further information regarding diversity and equal opportunity within our business can be found in our Annual Report.

3.16 Open and Transparent Communication

Timely, accurate and effective communication is imperative to our operation. If this is not done well it impacts on our reputation and people's confidence in our agency. When delivered well it eases the impact of potential socio-economic changes on communities from our infrastructure investment. In order to keep our operations open, accountable, fair and flexible, we collaborate with a wide range of customers and stakeholders who provide essential input to operational aspects of our business and the delivery of our infrastructure projects. Community and stakeholder engagement is adopted across our business and our projects.

The *Freedom of Information Act 1992* gives the public a general right to apply for access to documents held by government agencies. An information statement has been produced in accordance with the requirements of the Freedom of Information (FOI) Act. At Main Roads we will endeavour to produce documents and have them readily available outside of the FOI process. If for some reason the information is not available, the public have the ability to apply for access to documents through the FOI act. We keep the FOI Statement and FOI Application Form on our website. This statement provides a guide on how to apply for access to documents, as well as information about documents that may be available outside of the FOI process.

3.16.1 Global Reporting Initiative Reporting

Our commitment to best practice, open and transparent reporting is conveyed through our Annual Report which is compiled in accordance with the principles of the Global Reporting Initiative (GRI). We adhere to the GRI principles of stakeholder inclusiveness, materiality, completeness and context, and have an ongoing commitment to ensure the validity of these topics to our business and stakeholders. We conduct a biannual desktop materiality review and report these to our Corporate Executive. The review draws from our corporate commitments, key business and environmental risks, corporate stakeholder engagement processes, media and ministerial topics.

4 Our Sustainability Policy

Our Sustainability Policy is underpinned by six key aspects. The key aspects were determined through previous consultation that occurred within the Transport Portfolio level between ourselves, Public Transport Authority (PTA), Department of Transport (DoT) and various industry stakeholders. The key aspects are guided by a policy objective and we continue to develop actions and metrics to underpin these objectives. The six key aspects are:

- Sustainable Transport
- Climate Change
- Environmental Footprint
- Behaviour
- Governance & Performance
- Funding & Financing

The following sections break down these key aspects and outlines how we are developing and enhancing our business activities to support this policy.

4.1 Sustainable Transport

Objective
Deliver a road-based transport system that improves community amenity, mobility and travel choice whilst reducing indirect environmental impacts.

What we're doing
The transport system is an integral part of the everyday lives of all Western Australians. In a State that is as large and diverse as ours, it is a critical component that makes it all work. Beyond connecting people and places, effectively designed road infrastructure and road reserves make a significant contribution to the urban form and function, liveability, amenity and heritage of our cities, towns and settlements. The travel experience enjoyed by road users and visitors depends in part on the:

- creation of community amenity through urban design features and condition of road reserves;
- the ease of mobility across all modes of transport; and
- the ability to choose how to access transport.

Some of our key policy commitments in this area include:

4.1.1 Congestion

With Perth's population expected to reach 3.5 million people by 2050, congestion on our roads will continue to be a reality faced by everyone in the city. This population growth prompted us to establish the Traffic Congestion Management Program. The aim of the program is to ensure congestion does not impact liveability, ensuring Perth remains a sustainable place to live no matter how quickly the population and road infrastructure is growing.

4.1.2 Facilitating Public Transport Infrastructure

In light of the Premier fast tracking $2.3 billion worth of projects, the Office of Major Transport Infrastructure Delivery was created to deliver all transport projects valued over $100 million. This includes the Public Transport Authority and their teams working on METRONET projects. We have

also adopted a partnership approach with PTA to ensure the smooth delivery of infrastructure (e.g. dedicated bus lanes) on local and state roads. This partnership has seen the delivery of more sustainable types of transport.

4.1.3 Cycling and Pedestrians

We aim to achieve a safe, accessible and efficient road network as part of an integrated transport system for all road users. This includes pedestrians, people with disabilities, and cyclists. Some of the specific initiatives we have implemented include developing off-road cyclist and pedestrian facilities, trial reduced speed limits, implementing bike boulevards and 40km/h residential areas. Many of our major projects also include a scope to improve the Principal Shared Paths (PSPs) along key transport corridors.

Visit our Paths and Cycling webpage for more information. Our Disability Access and Inclusion Plan also includes vital information about the installation of PSPs, and can be accessed on our website.

4.1.4 Urban Design

Urban design applied to roads involves thinking beyond the provision of solely functional infrastructure, to consider the surrounding context and to include design objectives for people and places of the road management process.

All state road authorities include urban design considerations in the planning and design of road infrastructure. Road design solutions that are sensitive to the surrounding context (natural and built, social and visual) contribute to building better cities and communities, enhance local environment and add community value.

Main Roads places great importance on the urban and landscape design aspects of infrastructure works. For major works we will request the development of a Urban and Landscape Design Framework to inform the infrastructure project and urban design outcomes. The Design Principles of State Planning Policy 7.0 *Design of the Built Environment* are a key consideration for our approach to urban design. We refer our infrastructure projects that impact precincts of significance, or are of significance from an urban design perspective, to an independent review under Design WA. We have an established multi agency urban design working group which aims to improve urban design practice and outcome on our infrastructure.

4.1.5 Aboriginal Heritage

We acknowledge the traditional custodians of WA's lands and aim to protect Aboriginal cultural values where possible. We have developed an Aboriginal heritage process that ensures compliance with Western Australia's Aboriginal Heritage Act 1972. We work closely with other state government agencies including the Department of Planning, Lands and Heritage (DPLH) and the Department of Premier and Cabinet, as well as Aboriginal people, to ensure our Aboriginal heritage processes are robust.

4.1.6 Low and Zero Emission Vehicles

At Main Roads, we support the action to remove barriers and improve the uptake of Low and Zero Emission Vehicles due to their improved environmental performance and flow on benefits for our urban areas. The electrification of transport is regarded as key to reducing transport emissions.

4.2 Climate Change

Objective

Develop an appropriate response and adapt to our changing climate

4.2.1 What we're doing

We have been working towards developing new infrastructure and assets that are adapted to facing the challenges presented by current climate change forecasts, and minimise the effect of climate change on our current assets, while looking for opportunities to offer benefits for the community of Western Australia.

Climate change considerations are being integrated into our design standards and our major roads are being incrementally adapted as upgrades and infrastructure investments occur. As part of our alignment with ISC, we address the risks of climate change in the planning, design, and construction phase of our major projects.

Vulnerability Assessment

4.3 Environmental Footprint

Objective

Reduce our impact on the natural environment by focusing on emissions, pollution, waste, land-use and resources.

What we're doing:

4.3.1 Land Use

We recognise that the operations of the State road network, if not undertaken with care and responsibility, has the potential to cause negative environmental impacts to Western Australia's unique environment. The biodiversity of our state is widely recognised as unique and special.

4.3.2 Environmental Management

We manage our operations using a systematic approach in which all of our activities are screened for potential environmental impacts. Environmental impacts can include positive or negative changes to the physical, biological, cultural, and socio-economic environment.

We also operate on a hierarchy of avoid, minimise, reduce and offset our environmental impacts. This means that when an Environmental Impacts Assessment identifies that an action is likely to have a negative environmental impact, we seek to avoid, minimise, reduce and then offset our environmental impacts. This is achieved primarily through changes in scope and design, and the development and implementation of an Environmental Management Plan, and an Offset Proposal. Read more about our Environmental Policy and Environmental Management System.

For further disclosures on Environment and Heritage Management refer to our Annual Report.

4.3.3 Revegetation and Landscaping

Revegetation and landscaping is standard practice on our projects to counteract the impacts of vegetation clearing and/or soil disturbance, and to help retain and enhance the environmental values of roadsides. All of our major projects must develop and implement a Revegetation and Landscaping plan adhering to specifications. Read more about these specifications in our online Technical Library.

For statistics on Clearing, Revegetation and Offsetting refer to our Annual Report.

4.3.4 Pollution and Emissions

In Australia, air pollution is assessed by measuring six main air pollutants: carbon monoxide, nitrogen dioxide, photochemical oxidants (as ozone), sulphur dioxide, lead and particles. Urban air pollution is a known carcinogen and has a range of human impacts. Globally air pollution contributes to more deaths than road accidents. Of all the pollutants assessed, PM2.5 (tiny particles of matter, one-fortieth the width of a hair) is considered to present the greatest potential impact to our health. No level of air pollution is completely safe for humans. Particulate matter in the air can come directly from natural sources such as bushfires and dust storms. It can also come from human activities. Motor vehicles are also a significant contributor to emissions, contributing 14 percent of PM2.5, and 62 percent of nitrogen oxides. Diesel vehicles are the most significant contributor to air pollution.

Main Roads takes action to directly manage the traffic flow of vehicles, which has consequences for the overall environmental impacts from the use of the road network that includes carbon emissions and air quality.

Our Administration Facilities and Network Asset Operations are under our direct control. Our Asset Maintenance and Asset Upgrades/Construction are delivered under contract arrangements where the responsibility of energy consumption and emission sources are delegated to the contractor.

We're looking to expand our focus for emissions reductions to manage the emissions generated on our projects and maintenance activities. We encourage our project partners to reduce emissions from their activities through energy efficiency, the use of renewable or alternate energy sources and use of materials with lower embodied energy.

In collaboration with interstate and overseas road authorities we have helped develop a common whole-of-life methodology for assessing the greenhouse footprint of road projects, the Carbon Gauge Greenhouse Gas Calculator Tool. Using the ISC framework on our major projects also has seen a greater reporting regime of greenhouse gas emissions implemented.

4.3.5 Net Zero Transition Plan: Emissions from Direct Operations Activities

We achieved our carbon reduction target of five percent of 2010 carbon emissions by 2020. We are now in the phase of producing our own Net Zero Transition Plan. This plan addresses how we will change our business activities to work towards the WA target of net zero emissions by 2050. This Transition Plan will outline an approach to reducing carbon emissions within Main Roads activities, and actions proposed by asset owners on how to progress the next steps in our Carbon Reduction Plan. The Transition Plan will also provide guidance for our Development and Delivery projects on achieving the three Energy and Carbon ISC credits.

Our total emissions across our facilities during 2020-2021 was 29,154,262 tCO2.

4.3.6 Discharges to Water

Our operations result in very little discharge of water. In WA, the discharge of water is regulated through the Environmental Protection Act 1986 and the Rights in Water and Irrigation Act (1914) and in the event we were required to discharge water, it would obtain the appropriate approvals prior to discharge.

4.3.7 Water Run-off

Where there are direct linkages between storm-water and sensitive receivers, we have installed pollutant traps to prevent adverse impacts to the wetlands. These treatments include interception

of gross pollutants/rubbish, sediment, nutrients, heavy metals and hydrocarbons. Many of the above outfalls also have the capacity to trap hydrocarbon spillages up to 19000L.

For other road runoff, local sumps, compensating basins, infiltration basins and swales have been specially constructed to process storm-water, separating it from sensitive water receivers.

Resources & Waste

4.3.8 Water

We encourage practices that reduce our impact on water sources including improving water efficiency and overall water use, utilising recycled water and avoiding the use of potable water. For our buildings and accommodations we require waterwise WELS rated plumbing fixtures and landscaping. Within the construction and operation of our projects, we prioritise the use of non-potable water over scheme water to ease the burden of water scarcity within the communities we work in. When we are required to utilise ground water reserves we adhere to our licensing obligations to access this water.

Information regarding water abstraction and the licences required can be obtained from Department of Water and Environmental Regulation (DWER).

4.3.9 Circular Economy

The circular economy focuses on reducing industry waste and enhancing recycling. Our core focus on impacting the circular economy is to reduce the use of natural materials and increase the use of recycled constructions materials, as well as minimising the construction waste we send to landfill.

Natural materials are crucial in road building, so we encourage our project partners to recycle and reuse materials, and use recycled and 'environmentally labelled' materials in road construction and other activities. When obtaining road building materials we endeavour to avoid clearing natural vegetation, particularly high value vegetation. On-site materials unsuitable for use in road construction are used, as appropriate, for rehabilitating areas where road building materials have been extracted from.

We are progressing a number of research projects into recycled construction materials that could positively enhance our effect on the circular economy of the construction industry. We also continue to look into reusing our waste demolition materials onsite or sharing with nearby construction projects. Further information on all of the recycled products we have used can be found in our Recycled Materials Reference Guide.

Our support of the circular economy will support the Waste Authority's Waste Avoidance and Resource Recovery Strategy. The Strategy has been developed to "avoid waste generation, recover more value and resources from waste, and protect the environment by managing waste responsibly."[3]

4.3.10 Traffic Signals, Signs & Pavement Markings

Further to the information in section 3.13.1, we have a standard for signage placed along the road network, along with a sign index that outlines the different categories of road signs, where they are to be used and when they should be removed/replaced. Our 600 series specifications outline the signs and pavement marking requirements on our roads.

[3]&[2] Waste Authority (Government of Western Australia)
https://www.wasteauthority.wa.gov.au/images/resources/files/Strategic_Direction_Waste_Avoidance_and_Resource_Recovery_Strategy_2030.pdf

We manage traffic signals as well, and our specification 712 consists of the supply and installation of all components associated with traffic signals.

4.3.11 Roadside Waste

Roadside waste is a strategic sustainability issue for us and continues to burden our regions requiring ever-increasing attention to control. For many years illegal dumping of waste items, which are potentially recyclable such as tyres and building waste, has affected our road reserves. Illegal dumping is an offence under the Litter Act 1979, and plagues roadside rest areas and reserves across the State network. Litter and waste items in these areas can cause damage to drainage and waterway infrastructure, and eventually cause environmental degradation in wetlands and swamps. We encourage our community and industry to become involved in developing initiatives and solutions to target this issue.

We are collaborating with key stakeholders, interested parties and community groups to implement a consistent litter management approach for the state whilst taking into account individual regional requirements. A State Wide Litter Plan has been developed, targeting five key aspects across Western Australia:

- Roadside litter collection;
- Rest Area Management;
- Illegal dumping;
- Unsecured Loads; and
- Abandoned vehicles.

The primary objectives of this strategic initiative is to educate road users to take their litter with them wherever feasible or practical and reduce the occurrence of litter and illegal dumping through greater public awareness of the issue, increased community buy-in and participation in litter reduction programs and behaviours.

4.3.12 Renewable Energy

As outlined in section 3.14.2, renewable energy is used across our network where it is practical. This has seen different types of renewables used on bus shelters, remote road lighting, emergency telephones and school crossing warning signs. Solar PV systems have also been installed on a number of staff housing and at some of our offices across the state. In 2020-2021, our installed renewable energy systems produced 997,271kwh of electricity. Towards the future, we are researching the opportunities to install renewable energy at our project site offices, and mandate that a certain amount of electricity consumed comes from renewable sources.

4.3.13 Noise and Vibration

To monitor the noise and vibration impacts on local residents during project construction, our major projects must develop a public Noise and Vibration Management Plan that indicates how impacts on sensitive receptors will be mitigated during construction. We ensure our noise management adheres to requirements outlined in State Planning Policy 5.4.

4.4 Behaviour

Objective
Develop a culture of sustainability within our organisation, our industry and our community

What We're Doing
We have been building a culture that supports sustainability since we first rolled out our sustainability policy in 2006. We are continually working to build on our skills and knowledge aligned to our key aspects for sustainability. Some of the key activities that keep our people aware of sustainability challenges include:

- Training of key staff in Infrastructure Sustainability.
- Sustainability awareness program using corporate communications.
- Our participation on external research and industry bodies such the World Roads Association, Infrastructure Sustainability Council of Australia or Austroads working groups for topics such as Stakeholder Engagement, Maintenance, Workforce, Urban Design, Environment, Resilience and Climate Change.
- Innovation and Research Program – we have licenced a fully functional innovation management platform from a leading vendor to enable us to better seek solutions to known problems and to give employees a place to post their ideas and suggestions for improvement.
- Direct support of sustainability at industry level through our membership with the Infrastructure Sustainability Council and sponsoring the Western Infrastructure Sustainability Conference.

For details on how we embed sustainability within its procurement practices to encourage industry participation please refer to our Governance and Performance section.

4.4.1 Strategic Research

We undertake significant activity to develop and enhance our collective knowledge of economic, environmental and social topics. Additionally, we formally partner in a number of significant research groups/projects:

Austroads: Main Roads, along with the Commonwealth Government and the New Zealand, Australian State and Territory road agencies collectively own Austroads, which is the peak organisation of Australasian road transport and traffic agencies. Austroads undertakes leading-edge road and transport research which underpins input to policy development and results in published guidance on the design, construction and management of the road network and its associated infrastructure. Austroads provides a collective approach that delivers value for money, encourages shared knowledge and drives consistency for road users.

Australia Road Research Board (ARRB): ARRB provides research, consulting, products and information services to the road and transport industry. ARRB applies research outputs to develop equipment that collects road and traffic information, and software that assists with decision-making across road networks. ARRB is the leading provider of road research and best practice workshops in Australia. Main Roads, along with the Commonwealth Government and the New Zealand, Australian State and Territory road agencies collectively own ARRB. ARRB and its members recognise the critical role that they play in supporting one another to improve productivity, safety, sustainability and amenity outcomes for the community

WA Road Research and Innovation Program (WARRIP): WARRIP is an agreement between ourselves and ARRB. It includes the establishment of the Western Australia Road Research and Innovation Program in pavements, asset management, structures and bituminous surfacing, investment in the technology and systems necessary to gain a better knowledge of the condition and capacity in our current and proposed assets, a close association of ARRB's Pavements, Materials and Geotechnical resources with our Materials Engineering branch, increased collaboration with similar research centres in other states, including Austroads and the Queensland Department of Transport and Main Roads' National Asset Centre of Excellence (NACOE).

Planning and Transport Research Centre (PATREC): We are a partner to PATREC, which was established in 2002 for the purposes of conducting collaborative research and teaching in the area of integrated land use and transport policy and planning. PATREC is a collaboration between the University of Western Australia, Curtin University and Edith Cowan University and is also supported by Transport and the Western Australian Planning Commission.

Sustainable Built Environment National Research Centre (SBEnrc): SBEnrc is a key research broker between industry, government and research organisations for the built environment industry. Main Roads is a Core Member of the SBEnrc and benefits from this arrangement as Main Roads membership complements other member road agencies in NSW RMS, QTMR and complements the work of Austroads and Roads Australia, providing public leadership to encourage the private sector to be a part of industry development. Membership also entitles Main Roads to a nominee on the Governing Board.

4.4.2 Sustainable Procurement & Industry Sustainability

We apply a number of policies to assist us develop a culture for sustainability through our supply chain and improve overall outcomes for sustainability. The State Supply Commission Policy on sustainable procurement requires us to demonstrate that we have considered sustainability in our procurement of goods and services. In addition, we apply the Buy Local Policy where we consider and give preference to local providers in our purchases as the benefits to industry development and employment are recognised.

We support the changes made to the State Supply Commission's Open and Effective Competition Policy where there are opportunities to purchase from Australian Disability Enterprises and Registered Aboriginal Businesses. These organisations are listed on the Aboriginal Business Directory and on the Australian Disability Enterprises websites.

Industry Sustainability Plans have been incorporated into major projects to manage impacts and leverage opportunities for sustainability or social responsibility within project supply chains.

4.4.3 WA Industry Participation Strategy

The Western Australian Industry Participation Strategy (WAIPS) was developed to support objectives outlined in the WA Jobs Act 2017. The aim of the WAIPS was to ensure local businesses have a fair opportunity to be win State Government supply contracts. All State Government agencies and departments must adhere to the WAIPS to achieve the WA Jobs Act objectives.

4.5 Governance & Performance

Objective
Ensure high standards in governance by measuring and reporting our sustainability performance against our key sustainability aspects

What We're Doing

4.5.1 Infrastructure Sustainability Council of Australia Membership

We are a member of the Infrastructure Sustainability Council (ISC) which has developed the Infrastructure Sustainability (IS) Rating Scheme. The IS Rating Tool is Australia's only comprehensive rating system for evaluating sustainability across design, construction and operation of infrastructure. At Main Roads, we have an on-going commitment to ensure all of our projects achieve at least a Bronze Rating according to the IS V2.0 Planning and Technical Rating. All projects that have a greater value than $100 million are formally registered for assessment by ISC using the IS Rating Tool. For those projects that have a value between $20 million and $100 million use the IS Rating Tool to undergo a self-assessment, rather than formal verification.

Supporting schemes such as the IS Rating Tool directly link to our current Sustainability Policy. We supported the development of the Tool by participating in pilot trials of various versions of the Rating Tool and by providing resources for the Working and Advisory Groups that ISC facilitates as part of their program of tool development and improvement.

Our projects are registered for a Planning rating at the start of the Project Development phase. They are then registered for a Design and As Built rating at the start of Project Delivery/construction. The following criteria outline the criteria that our projects must meet to pursue an IS Planning rating:

- Project construction estimate is more than $100 million
- Is a Government election commitment
- Has an approved forward estimates cashflow

4.5.2 Global Reporting Initiative Reporting

Our commitment to best practice reporting is evidenced through our Annual Report which is compiled in accordance with the principles of the Global Reporting Initiative (GRI). We adhere to the GRI principles of stakeholder inclusiveness, materiality, completeness and context and as an ongoing commitment to ensure the validity of these topics to our business and stakeholders, we conduct a biannual desktop materiality review which is reported to our Corporate Executive.

4.6 Funding & Financing

Objective
Create opportunities for innovation in funding and financing for road infrastructure development and maintenance.

What We're Doing

In order to achieve economic stability and support a strong local economy, Main Roads faces the challenge of ensuring adequate funding is provided to construct and maintain a safe and reliable road network for current and future road users. In 2020/2021, Main Roads received $4.1 billion in funding and invested $1.4 billion in managing the State road network and capital works. Similar to the 2019/2020 financial year, this included a number of fast-tracked projects to not only boost jobs during the COVID-19 pandemic, but to also increase the safety and efficiency of the road network.

We have a Funding and Finance Policy that outlines the intent, principles, and responsibilities for the expansion of funding for activities. This includes the identification, evaluation and implementation of alternative revenue, funding, and financing opportunities. The policy distinguishes between these three factors to promote an understanding of the various principles and demonstrate linkages to asset management, investment planning and project programming. Part of the new policy included holding a number of Financial Acumen workshops designed to improve the level of commercial acuity and awareness throughout the organisation.
We currently manage a Concessional Loading Road Maintenance Contribution Policy to ensure efficient freight access is balanced with equitable charging regime for the additional damage to the road network.

We have developed a Business Case Guidelines document, which details the minimum requirements and preferred template for a Business Case. Both the State and Commonwealth templates have a section on alignment to State priorities, government goals and Main Roads outcomes. The Infrastructure Australia template has a section regarding alignment to government goals and key strategies. Long and short listed options (undertaken for each project) are rated according to how they contribute to government goals and strategies.

Indirect economic benefits (those outside the scope of the Benefit Cost Assessment) are now being measured through Wider Economic Benefits. These are an attempt to monetise the benefits a project delivers to the wider economy through enabling infrastructure. For example, building a road from a remote location to a National Highway or to a remote Port helps to increase profitability to uneconomic mining developments. This creates job opportunities for residents – including Aboriginal people – in remote communities.

In 2020/2021 we will be participating in National Heavy Vehicle reforms in conjunction with DoT. The aim of this is to turn the provision of heavy vehicle road infrastructure into an economic service where feasible. This will see a market established that links the needs of heavy vehicle users with the level of service they receive, the charges they pay, and the subsequent investment of proceeds back into road services.

4.6.1 Indirect Economic Impacts

Main Roads considers indirect economic impacts from investment and non-investment during the project development phase (assess and select phase). A needs identification framework is used to address factors including safety, travel experience, accessibility and amenity to highlight network deficiencies. This method ensures that we recognise that an asset in itself does create value, but the greatest value is the outcome that the asset delivers. This framework also ensures rural and remote communities are consistently considered, especially in terms of accessibility and amenity.

Main Roads identifies crucial needs including access to important facilities including schools, hospitals, and stadiums in urban areas by working with the relevant infrastructure owner's (including the Department of Education and Department of Health) to ensure the road network is providing appropriate access and linkages. For example, we have built access roads from the Kwinana Freeway to Fiona Stanley Hospital, and access ramps and bridges to the new Perth Stadium. We manage safe access around schools using a combination of traffic calming devices, and speed management plans using ITS.

Main Roads adopted the Treasury Prioritisation Methodology to prioritise potential projects for an investment decision, and for project funding decisions. This methodology considers the importance, benefits and maturity of each initiative, and ensures indirect economic impacts are considered.

Main Roads has adopted a Post-Project Evaluation Framework that measures the success of a project, and ensures it has achieved the intended KPI outcomes from project investment. This Benefit Realisation Framework is endorsed by ATAP and is a key feature of ISC's version 2.0 Rating Tool.