AUSTRALIAN FLEXIBLE PAVEMENT ASSOCIATION

NSW GOVERNMENT PRE-BUDGET SUBMISSION

2025-26

ABOUT AFPA

The Australian Flexible Pavement Association (AfPA) is the peak industry body representing the $27 billion flexible pavement industry. It delivers safe and sustainable outcomes that benefit communities across Australia.

For over 50 years, AfPA has brought together our dynamic and multifaceted industry that is responsible for the design, specification, manufacture, construction, and maintenance of all forms of bituminous flexible pavements.

AfPA's members constitute a diverse array of professional organisations that support the industry and are passionately committed to advancing flexible pavement technology for the benefit of the road user and the broader community.

AfPA members include bitumen suppliers, asphalt producers, sprayed surface operators, major consultancies, suppliers (such as equipment providers, line markers and profiler contractors), all Government Road Authorities, and many Local Governments from across Australia.

AfPA's vision embodies three key objectives:

- To support industry to be healthy, safe, innovative, and adaptive to change, acting as a platform for industry sustainability.
- To support the national harmonisation of best industry practices, promoting the benefits of flexible pavement.
- To drive a national culture of continuous improvement in infrastructure.

AfPA welcomes the opportunity to submit to the NSW Government's Pre-Budget Submission**.** We are firmly committed to working with all levels of Government to build a stronger, more sustainable infrastructure that will support our nation's current and future needs.

FLEXIBLE PAVEMENT INDUSTRY SNAPSHOT

Australia's roads are the critical infrastructure that logistically connects us and ensures our basic functionality as a society. Across all aspects of our day-to-day lives, roads bring us together, facilitating all functions of our social fabric and economic activities. Their ongoing viability, level of service, and safety are entirely dependent on the significant contributions of all levels of Government to new projects and the maintenance of the existing network and, equally, on a skilled, competent workforce to deliver on these commitments.

A core component of maintaining existing networks is road resilience, which the US Federal Highway Administration (FHWA) defines as the ability to anticipate, prepare for, and adapt to changing conditions, as well as to withstand, respond to, and recover rapidly from disruptions.

Equally crucial is sustainability and the use of viable, modern materials for roads to ensure that the industry meets modern standards of technology, and continually reduces the carbon impact of pavement infrastructure construction and maintenance. Integrating innovative materials and sustainable practices into road construction and maintenance will not only enhance the durability and performance of our roads but also minimise environmental impact, contributing to a more sustainable future. This includes designing, constructing, and maintaining pavements for long life and reuse of end-life pavement materials

Our roads are owned predominantly by state and local Governments, which play a significant part in the nation's economic development and productivity by investing in transport efficiency, safety, and reliability.

Over 95% of Australian roads are built with flexible pavements – many of which are unsealed or significantly under-maintained, leading to a lack of resilience to significant natural weather events and increased road safety risk for Australians. Relatively, roads controlled by 537 councils had suffered more than $3.8 billion in damage during the 2022 and 2023 flooding events - this excludes many billions of dollars of state-controlled roads that equally urgently require basic maintenance works.[1]

[1] Data from the Australian Local Government Association and Australian Road Research Board (ARRB) (now known as the National Transport and Research Organisation (NTRO)

Transport is currently the third-largest source of greenhouse gas emissions in Australia, accounting for 21% of the nation's emissions in 2023, with the construction industry contributing up to 10%. We support an industry transition to reduce the carbon footprints of roads, transport, and infrastructure to help meet Australia's net zero.

Zero by 2050 decarbonisation targets. Sustainable efforts will not only benefit communities but also bring innovative approaches to infrastructure that are economically viable and improve the industry.

Our industry members note the importance of the NSW Government prioritising the safety, sustainability, and seamless connectivity of the state's rural and regional road network. There is an ongoing, urgent need to bridge the road maintenance service gaps and failures that disproportionately affect regional and remote communities.

COLLABORATION WITH GOVERNMENT

Increasing open discussions around circularity and sustainability in the roadwork and flexible pavement industry is vital. So, too, collaboration between industry, agencies, and government is also needed to ensure that road networks play a key role in the state's transition to net zero.

Achieving 2030 and 2050 goals will rely on a 'whole of industry' approach, where incremental and strategic improvements in operations will collectively contribute to our greenhouse gas reductions. Furthermore, we will need to leverage existing technology, accelerate innovation, and engage with our upstream and downstream stakeholders to incentivise the adoption of sustainability and utilise wider government initiatives to deliver broader technological advancements across other sectors that will contribute to reducing our impact/contributions to emissions.

By working together, we can integrate sustainable, unified practices into the roadwork and transport industry, fostering long-term resilience, productivity, and competitiveness. This partnership is crucial not only in metropolitan areas but also in rural networks, ensuring that all communities benefit from sustainable infrastructure.

In particular, AfPA welcomes the opportunity for continued collaboration with the NSW Government to develop industry-driven solutions that address the net zero challenge. A focus on rebuilding and revitalising rural and regional roads to build long-term resilience and lower carbon impacts will also support healthy and local economies.

1. ADDRESSING FUNDING

Ongoing weather instability including extreme wet weather events, coupled with increasing population and market demands, highlights the urgent need for sustainable infrastructure development to accommodate growing populations. This, in turn, challenges the industry, particularly in the availability of trained and skilled workers.

AfPA emphasises that much of the industry's work extends beyond new projects, focusing instead on the maintenance of the road network and on lifesaving, urgent road repairs necessitated by climate-induced damage. **AfPA urges the NSW Government to increase funding to address road maintenance backlogs.**

Proactive maintenance strategies must replace reactive approaches to ensure cost-effective, less carbon-intensive solutions that minimise disruptions to road users. Developing a more resilient road network will deliver lower whole-of-life costs and reduce carbon emissions, making maintenance efforts more sustainable in the long term.

Establishing a stable pipeline of maintenance funding is essential to enable businesses to invest confidently in employing and upskilling a skilled workforce. Collaboration between local governments, state and federal bodies will be key to prioritising maintenance projects and ensuring workforce development.

While AfPA commends the NSW Government's investment in major capital infrastructure projects, greater attention must be given to the maintenance and enhancement of local and regional road networks. These networks form the backbone of communities and commerce across the state, and their deterioration poses a significant risk to resilience, road user safety, and the transition to net zero. Increased funding for maintenance and innovative approaches will ensure improved road performance, reduced costs, minimised disruptions, and lower net carbon impacts.

With population increases and the growing demands of heavy vehicle transport, the road network is under unprecedented pressure. Adequate investment in maintenance is critical to sustaining these vital arteries of economic activity and community connectivity.

To address these issues, AfPA recommends the NSW Government to:

- Establish a stable pipeline of road maintenance funding to address existing backlogs and provide businesses with the confidence to employ and train skilled workers.
- Prioritise proactive maintenance strategies to create resilient, longer-lasting road assets, reducing whole-of-life costs and carbon emissions.
- Increase funding for the maintenance and improvement of the local and regional road networks, which are vital to community connectivity and economic activity.

2.ADDRESSING ROAD RESILIENCE BACK-LOG

AfPA's key ask of the NSW Government, and all other levels of government across Australia, is to fix our roads first.

AfPA strongly urges the NSW Government to make fixing our roads a top priority. Recent federal, state, and independent investigations have repeatedly emphasised the need to address the road network's lack of resilience by reversing the growing maintenance backlog.

State and local roads represent a critical asset, fostering connections that enable communities, businesses, and individuals to thrive. However, the impact of climate change-induced extreme weather events, such as widespread flooding, has exposed significant vulnerabilities in the road network. These events have caused severe damage, leading to what has been described as a "pothole plague."

While the state's disaster recovery program for rebuilding is commendable, the increasing frequency and intensity of damaging weather events necessitate a proactive and strategic approach. Roads are communities' lifelines, providing access to healthcare, critical supplies, and economic opportunities. This is particularly true for regional and remote areas, where poor road conditions disproportionately impact residents and businesses.

Our roads are also under increasing stress due to population growth and heavier vehicle loads. Additionally, with the emergence of new industries, particularly renewable energy projects like wind and solar, there will be a growing demand for constructing and maintaining roads. These projects will require new infrastructure to transport goods and materials essential for construction, further emphasising the need for a resilient and well-maintained road network.

As the vital lifeline between communities, our roads act as the arteries that connect us, and are of the highest strategic importance for all communities, particularly remote regions. Ensuring our roads are safe and reliable is fundamental to the safety of our road users, our connectivity, and the state's economic productivity. It is noted that our regional and remote communities continue to be disproportionately affected by roads of poor condition and reliability.

Research from the Grattan Institute in November 2022 underscored the need for an additional $1 billion in annual funding to sustain Australia's road infrastructure. These findings were further validated in December 2023 through recommendations by the Federal inquiry into the implications of severe weather events on the national, regional, rural, and remote road network.

AfPA welcomes collaboration with the NSW Government to develop a comprehensive strategy to ensure the road network is safe, sustainable, and capable of meeting the needs of all users.

To address these issues, AfPA recommends the NSW Government to:

- Expand support for the local government roads resilience challenge and increase annual road infrastructure funding to address climate-related vulnerabilities.
- Ensure equitable road maintenance investment to improve conditions in regional and remote areas and address aging sealed and unsealed roads.
- Establish a sustainable road maintenance pipeline with innovative repair methods to protect assets from weather instability
- Prioritise repairs and upgrades to roads in poor condition to improve safety, reliability, and resilience.

3. SUSTAINABILITY

AfPA seeks the NSW Government to adopt a requirement for the full use of established, endorsed guides and technology be used to significantly reduce scope 1 and 2 emissions over the next few years.

AfPA members have set a target to reduce Scope 1&2 emissions by 30% by 2030. This includes:

- using Environmental Product Declarations (EPDs)s & the AfPA Life Cycle Aassessment (LCA) Calculator for Asphalt to report on industry GHG emissions & energy.
- ensuring the statewide adoption of the AfPA Sustainability Framework for Asphalt (SF4A) to facilitate and drive continual investment to reduce the carbon emissions of asphalt production.
- increase the use of renewable materials to promote circular economy to an engineering benefit.
- driving specification & contract changes to encourage the uptake of carbon-friendly products.

The key issues that need addressing are the pathways to adopting innovative solutions, from demonstration to incorporation into specifications. Equally critical are the procurement policies and guidelines that direct solutions towards net zero, more resilient pavements and foster innovative practices.

Building back better to meet the growing demands of increased traffic and heavier loads, along with the threat of extreme weather events on road pavements, requires creating more durable pavements that can withstand these factors and extend their lifespan. The most effective way to provide safe road pavements for users while minimising embedded carbon and whole-of-life costs is by extending pavement life and ensuring its reuse and recyclability at the end of its lifecycle. This also helps minimise disruptions from maintenance treatments.

We are eager to collaborate with the NSW Government and its departments to align our industry's circular and sustainable objectives with these targets. We advocate for state funding through local governments to promote circularity in road maintenance, as maintaining existing roads provides significant environmental benefits compared to constructing new ones.

Circularity in Maintenance

Road maintenance projects deliver significant environmental benefits compared to constructing new roads, supporting the reduction of Australia’s carbon footprint. Maintenance encourages the reuse of existing construction waste and recycled materials, making it a practical implementation of circular economy principles.

However, new road projects often receive more attention from governing authorities, overshadowing the need for maintaining existing infrastructure. AfPA contends that this approach doesn’t necessarily result in the best outcome for all, not just leading to deteriorating road networks but also contributing to the use of excess materials and increasing waste.

Roads and the Environment

With the rise of severe weather events caused by climate change, the resilience of Australia's road network is critical. Recent natural disasters underscore the urgent need to prioritise durability and sustainability in road infrastructure to ensure reliable access for all communities.

Rural and Regional Communities

To achieve net zero targets, it is crucial for the road sector to address the significant maintenance needs of rural and regional networks as well as those of major infrastructure projects. Rural communities are disproportionately impacted by road maintenance funding shortfalls and infrastructure damage, highlighting the necessity for targeted support and investment. Maintaining and repairing existing roads in these areas is notably less carbon-intensive compared to constructing new projects.

In regional and rural areas, where pavements often consist of gravel or crushed rock topped with a thin bitumen spray seal, solutions are available to mitigate the impacts of increasingly frequent climate-induced extreme weather events. Techniques such as **foamed bitumen stabilisation** of base layers combined with **crumb rubber bitumen surfaces** offer cost-effective and low-carbon solutions to enhance pavement resilience while reducing whole-of-life financial and environmental impacts.

By investing in the sustainability of rural road networks in NSW, we can support emerging industries and local economies and ensure that all communities benefit from advancements in clean technology and sustainable infrastructure.

Circular Economy

AfPA, in partnership with Austroads, has established a number of pavement engineering practices that incorporate the use of renewable materials to provide engineering benefits to roads. These include the re-use of asphaltic materials (RAP) in perpetuity, crumb rubber (tyre waste), plastics, and glass.

Innovative low-carbon solutions and products that perform as well as existing materials are available now. For example, in November 2024, AfPA showcased innovative asphalt products at a forum at the TfNSW offices in Newcastle, NSW. Innovations include the use of high reclaimed asphalt pavement (RAP) content, biogenic bitumen, and crumb rubber from recycled tyres.

AfPA seeks support from the NSW Government on the mandated use of these products across the sector on state-funded projects to overcome barriers to adoption for materials and practices already endorsed by Austroads and all state and territory jurisdictions.

Reduced Carbon Emissions

The NSW Government has set a target to deliver a 50% cut in emissions by 2030 compared with 2005 levels, and while this is a stretched target the decarbonisation journey has already been well commenced by industry.

Our national road surfacing companies already have their own international targets to demonstrate and are willing to work with the Government to do their part.

As identified above, the NSW Government buying back into 'Fixing it First' to address the poor resilience condition of our roads has an exponential reduction effect on carbon emissions through:

- reducing the early life failure and need for heavy carbon reconstruction of our road pavements;
- reducing the carbon impact of rectifying ever-increasing natural disaster damage;
- reducing the rolling resistance to vehicles, resulting in increased fuel economy for every road user on the network.

By funding the reversal of our state road maintenance backlogs and addressing the road resilience crisis, reduced carbon emissions from the transport and roads sector will be significantly benefited.

It should also be recognised that currently, there is low-lying fruit through underutilised nationally endorsed specifications and technical guides that are already jointly developed between industry and ITSOC (through Austroads) and will help with this journey now—however, they are not fully utilised or implemented nationally.

To address these issues, AfPA recommends the NSW Government to:

- Enforce the use of established road surfacing engineering guidelines that significantly reduce carbon emissions by:
    - Reducing asphalt temperature to warm mix (a 30-degree reduction in asphalt temperatures reduces greenhouse gases by 15%);
    - Eliminate petroleum-based cutters and hydrated lime anti-stripping agent (reduction of 10-15% emissions).
- The NSW Government continues to support industry in utilising renewable materials that have sound engineering properties that benefit and improve road performance to help address a growing national circular economy challenge.
- Support innovative designs and solutions, including those that enhance the life cycle, renewability and sustainability of road infrastructure.
- Use low carbon and recycled materials in its procurement practices, particularly ensuring consistency in the interpretation of requirements between policy and compliance.

Example of decarbonisation success in the asphalt industry

AfPA's goal is to **translate low carbon and circular economy principles into delivered practical outcomes**. Examples of direct actions to be embraced by the AfPA members are included below:

- The Australian asphalt industry is a leader in the reuse and recycling of materials and is continually advancing the use of *Reclaimed Asphalt Pavement* (*RAP*), which is 100% reusable as asphalt, reducing waste and the need to disturb the natural environment in pursuit if new raw materials. Importantly, the bitumen recovered in this process is "free", improving the cost-effectiveness of our assets and reducing the need for the importation of this crude oil derivative.
- Exploring and adopting biogenic bitumen sustainably derived from non-oil-based sources.
- Utilising crumb rubber from waste tyres as an additive to bitumen that enhances performance and life span and reduces waste to landfill and stockpiling of end-of-life tyres.
- Industry can reduce asphalt mixing temperatures by expanding the use of currently available technologies reducing GHG emissions, providing improved moisture control and other carbon lowering options.
- AfPA has introduced a **world-first sustainability assessment framework** for asphalt plants that will reduce direct GHG impact through mandated evaluation of operational efficiency and use of circular secondary materials, thereby continually raising industry standards.
- Progressing sustainable energy supply options through selecting renewable energy sources for fuel required/used across fixed and mobile plant operations and offices. Transition to renewable electricity for on-site sources and external providers in support of net zero carbon electricity generation and consumption.
- The asphalt industry can contribute to a net zero target through:
    - Working with pavement asset owners to procure improved pavement solutions that result in increased quality and durability of pavement materials.
    - Engaging with asset owners and associated agencies to remove barriers to improvements by continually updating specifications, championing innovation and encouraging increased efficiency.
    - Progressively procuring from as well as encouraging and incentivising suppliers to improve their products and services, such that the industry will have established net zero supply chains by 2050.
- We champion the importance of environmental sustainability across the flexible pavement industry, and the opportunities to drive sustainability in road maintenance work. The need for Australia to shift to circular economy practices has never been clearer, and the flexible pavements industry is well positioned to do its part to ensure this sustainability objective is achieved.

ROADS SYNONYMOUS WITH SUSTAINABILITY -

COLLABORATION WITH COUNCILS IN AUSTRALIA'S LARGEST RECYCLED RUBBER ASPHALT PROJECT

In an Australian first, AfPA partnered with industry bodies and 12 Sydney Metropolitan Councils in the largest crumbed rubber asphalt demonstration project in Australia. The Project represents a remarkable opportunity to transform Australia's road infrastructure while promoting sustainable waste management practices.

By introducing crumb rubber, derived from recycled tyres, into the bitumen used for road construction, the project aims to achieve remarkable improvements in road longevity, reduced maintenance costs, and a significant contribution to environmental sustainability. This approach not only enhances the performance and durability of roads but also fosters responsible waste management by repurposing discarded tyres that would otherwise end up in landfills.

The project's implementation is a collaborative effort involving key stakeholders such as AfPA, Tyre Stewardship Australia, Boral, and the Southern Sydney Regional Organisation of Councils (SSROC). This partnership ensures a diverse range of expertise, resources, and perspectives are brought together to support the project's successful execution.

In terms of material provisions, the initiative will deliver 2000 tonnes of sustainable pavement material, created through the incorporation of crumb rubber and including RAP and other recycled materials, and an additional 1200 tonnes of “conventional” control asphalt mix. These materials have been applied across various local Sydney council streets, serving as tangible evidence of the project's viability and impact.

The involvement of 12 Sydney Metropolitan Councils, including Bayside Council (NSW), Burwood Council, City of Canada Bay, City of Canterbury Bankstown, City of Sydney, Georges River Council, Inner West Council, Randwick City Council, Sutherland Shire Council, Waverley Council, Woollahra Municipal Council, and Northern Beaches Council, showcases the broad geographic reach and potential scalability of this initiative. Each participating council demonstrates a shared commitment to sustainable development and recognises the immense benefits of integrating crumbed rubber asphalt into their road construction practices.

AfPA strongly urges the NSW Government consider the significance of this project and its alignment with its infrastructure objectives. By providing support and funding, the government can help drive further research, development, and scaling of crumbed rubber asphalt technology, enabling its adoption on a broader scale. Incorporating this innovation into the national infrastructure investment agenda will reinforce Australia's commitment to sustainable, credible, and nation-building practices while delivering substantial benefits to our communities and the environment.

4. ROAD SAFETY AND RESILIENCE

The Australian road toll at over 1250 deaths (year to date) is clearly unacceptable, and in part, there is an opportunity to address this by creating a safer road environment.

In addition, there is an opportunity when undertaking these capital works to address the resilience of the road network in particular across regional NSW.

AfPA commends the NSW Road Safety Action Plan 2022–2026 which has set a goal of 'no death or serious injury occurring on the road transport network' by 2050. It is essential to ensure that this plan is adequately funded and implemented, with regular assessments and adjustments to address emerging challenges and technological advancements.

New South Wales has a vast road network of almost 184,859 km in length, with approximately 80% classified as Local Roads. In Australia, the annual economic cost of road crashes is estimated at more than $30 billion, as per Monash University. This substantial figure, whether directly or indirectly, affects states and territories.

Australian research has shown that on these roads, **by increasing sealed shoulder widths and also providing a wide centre line treatment, there is up to 50% reduction in KSI's**. This provides an opportunity for the Australian government to build low-cost, mass-action safer roads for regional Australia by:

1. utilising the NDRA resilience funding to not just "build back better", but to build it back safer; and
2. partnering with state and territory jurisdictions on a proactive shared funding basis to widen these roads. This initiative will:
    a. create safer roads and reduce the national road toll by up to 25% over time;
    b. support regional employment and private sector investment into regional Australia; and
    c. support addressing the national roads resilience challenge.

The safety of roadworkers must be prioritised through innovative approaches to workplace design and operational practices. Nightwork, while intended to minimise inconvenience for road users, exposes workers to heightened risks, including erratic driver behaviour and aggressive public actions.

To address this, **closing roads during night work** should be strongly considered as the safest option. This approach eliminates the risk of live traffic interactions, enhances productivity, and reduces traffic disruptions overall. It represents a reasonable trade-off for the challenges associated with daytime operations and underscores the importance of safeguarding those who maintain our roads.

In addition to closing roads at night, leveraging advanced technologies can significantly enhance worker safety. Tools such as mobile speed cameras, artificial intelligence, and other enabling innovations can help separate workers from live traffic and mitigate risks on temporary worksites. These solutions should be adopted proactively, without compromising safety measures in pursuit of lower costs. Enforcement of speed limits at roadworks, particularly at night, is also essential. Prioritising technology approvals for on-site speed detection and enforcement, coupled with an industry-led social media campaign, can encourage safer driver behaviours and create a more secure environment for roadworkers.

To address these issues, AfPA recommends the NSW Government to:

- The NSW Government to invest in a regional road widening program across the state.
- The NSW Government to direct revenue back into road safety and road condition improvement projects that are linked to a vision of zero harm on the road network.
- The NSW Government prioritises the closure of roads for short term temporary nightworks.
- The NSW Government continue to build on current commitments to enforcing restricted speed limits using available speed enforcement measures, including point-to-point camera technology and mobile speed cameras in and around all road work sites to save lives.

AFPA INDUSTRY SKILLS CARD – TRAINING THE NEXT GENERATION OF ROAD WORKERS

A key initiative to attract new entrants to the flexible pavement industry, support the reputation and recognise the work of our workforce, AfPA, in collaboration with the industry and supported by the state Government, has developed the Australian Flexible Pavement Industry Skills Card (Skills Card).

Bituminous surfacing industry is a specialist trade skill set that ensures the safety of the travelling public and protects the nation's and the NSW Government's most valuable asset – its roads. On this basis, those who deliver the nation's highest-order roads should possess qualifications specific to this industry to ensure quality, safety, long-term durability, performance, and workforce sustainability, identifying career pathways through the industry.

These skill sets have been designed to be transferable between employers and state boundaries and are recognised nationally. The qualification needs to be recognised as a trade equivalent that provides confidence to procurers and promotes attraction and retention of talent to the industry. This can only happen if authorities implement the skills card into the procurement process.

As the nation's leading industry association for bituminous surfacing, AfPA has been compiling a significant library of industry specific resources that create a VET unit of competency, to be utilised by affiliated RTO's. These resources will be retained and shared through the association to ensure the latest practical knowledge training is provided to the Flexible Pavements Industry.

The Skills Card, which is transferrable, recognises prior experience and the academies of each organisation. In partnership with state Road Authorities, this scheme will identify, train, and provide each worker with a qualification on a skill set basis. The following skill sets within the industry card have been developed to date:

- Safely handle bituminous materials Asphalt Surfacing
- Spray Sealing
- Insitu Stabilisation Operations, and more.

The skills of Australian roadworkers were formally recognised thanks to a new qualification developed by AfPA and approved by the National Skills Commission.

The new 11-part qualification industry skills card will support better career development for workers and attract more people into a sector that is facing a skills shortage at a time of unprecedented demand from infrastructure projects and repairs to roads damage.

Under the new Skills Card, Australia's roads are set to become safer and more skilfully built than ever through a set of specially designed part qualifications introduced under the national qualification RII30920 Certificate III in Civil Construction – Bituminous Surfacing, designed to improve the nation's workforce and road building skills.

To address these issues, AfPA recommends the NSW Government to:

- Adopt and apply the AfPA Skills Card on a national scale, with the NSW Government's adoption accounting for this national effort.