

As part of the ACT Government's Climate Adaptation Strategy, trials of new innovations are increasing the ability of our community to adapt to climate change impacts, reduce greenhouse gas emissions and build a more sustainable city.

# CLIMATE ADAPTATION INNOVATION

## Road Resurfacing Using Recycled Materials In Pavement

Sustainability innovations in road resurfacing across the ACT are helping to reduce greenhouse gas emissions, re-use waste products and extend the life of pavements to keep costs down.

### INNOVATION

Road resurfacing using recycled materials was first trialled in 2016. Recently, a range of innovative treatments have been introduced to optimise resource use and reduce lifecycle costs across the city's road maintenance program. These are microsurfacing, cape seal, rejuvenation, crumbed tyre rubber binder and low carbon reclaimed asphalt pavement.

### DETAILS

**MICROSURFACING** is a very effective corrective treatment for shape, skid and noise problems. It consists of a layer of asphalt emulsion with finely crushed stone. Its application does not require hot temperatures, saving energy and cost.

**CAPE SEAL** is microsurfacing in combination with another process called chip (gravel) seal. Cape seal is used for cracking and is effective for reducing noise and in situations where there are high numbers of turning vehicles. It also is a lower heat (low energy use) product.

**LOW CARBON ASPHALT**, also called reclaimed asphalt pavement, substitutes toner cartridge powder and recycled asphalt for new materials and uses less heat in its application. The mixture is estimated to save 14 kilograms of carbon dioxide equivalent per tonne of product used, compared to other asphalt mixtures. This product is now widely used in Canberra's streets for re-sealing projects.

All three of the above pavement products are applied at cooler temperatures than traditional hotmix, meaning they take less energy to produce, leading to lower greenhouse gas emissions.

**CRUMBED RUBBER** from recycled car tyres is 18% of the binder used in asphalt. This has improved performance and strength for heavily trafficked roads.

**REJUVENATION** treatment extends the life of asphalt by 'painting' without any aggregates which saves use of quarry materials and does not waste the existing pavement.



## SUSTAINABILITY BENEFITS

- > Lower greenhouse gas emissions from using eco-friendly resurfacing techniques that require less energy to heat and from using reclaimed waste materials saving emissions per tonne of product.
- > Reduces waste sent to landfill.
- > Reduces use of new quarry materials.

## CO-BENEFITS

- > No cost or durability difference between traditional and recycled asphalt mixtures.
- > Extended life of pavements reduces lifecycle costs.

Canberra's climate is already changing,  
and in future the ACT can expect more  
**EXTREME WEATHER EVENTS.**



### Heatwaves

will become hotter,  
more frequent and  
last longer.



### Droughts

will increase  
in severity and  
frequency.



### Storms

will become more  
intense, causing flash  
flooding.



### Bushfire

weather will  
become more  
dangerous.

A certain amount of warming is already locked in. The ACT Government is committed to ensuring Canberra adapts to the changing climate, so that it can remain a vibrant, resilient and liveable city.