

Resolution of Council

25 November 2024

Item 16.5

More Recycled Roads and Sustainable Pavement Applications Across the City of Sydney

Moved by Councillor Maxwell, seconded by Councillor Worling –

It is resolved that:

(A) Council note:

- (i) the City of Sydney’s Environmental Strategy 2021-2025 prioritises initiatives that reduce the amount of waste sent to landfill through resource recovery and the development of circular economy systems. The use of recycled materials in infrastructure pavements represents a significant opportunity to support these actions;
- (ii) the City of Sydney has been at the forefront of promoting sustainability in infrastructure pavements over many years. This is reflected by the ongoing use of recycled materials in pavements and our active participation in trials to consider the viability of more sustainable materials;
- (iii) in 2021 the City of Sydney started delivering road works under the Southern Sydney Regional Organisation of Councils (SSROC) ‘Paving the way’ program. The program has already successfully ensured that 10.8 million glass containers are recycled for use in asphalt each year, when they are not able to be used to make another glass container. Each year the City of Sydney is now recycling more than 500,000 glass containers into asphalt pavements under this program;
- (iv) SSROC has also recently proceeded with a crumb rubber asphalt demonstration project. Northern Beaches Council, Burwood Council and the City of Sydney were selected for a more in-depth investigation into the potential environmental benefits of using crumb rubber in council asphalt roads. The findings were promising and indicated that the project was a success;

- (v) the City of Sydney routinely uses recycled asphalt and crushed recycled glass in asphalt mixes where available. The ongoing use of these recycled materials by the broader sector has cleared backlogs of these materials and has ensured they have an ongoing circular reuse;
 - (vi) in recent years the City of Sydney has conducted various trials testing the use of sustainable materials in asphalt pavements including recycled crumb rubber, recycled soft plastic, recycler toner and recycled aggregates. The City of Sydney has also used warm mix asphalts, which have a reduced carbon footprint;
 - (vii) a geopolymer concrete blend has also been trialled in a City of Sydney road pavement in Wyndham Street Alexandria. The sustainable concrete blend uses an alternative cement that generates only 180 kilograms of CO2 per tonne, compared to 900 kilograms used in producing traditional cement. With 70% of the concrete produced today going into pavements and footpaths, considering alternative materials with lower carbon footprints has great potential to further lower emissions from our operations;
 - (viii) the City of Sydney now uses a low carbon concrete for our footpath pavement renewal works which incorporates substituted cementitious products to replace cement, recovered sands and aggregates and recycled water. Demolished materials from these works are also recycled where practical; and
 - (ix) generally, the City of Sydney finds that all the innovative sustainable materials trialled are proven to be technically feasible. The ongoing use of many of the trialled products is possible once supply chain barriers are removed and when there is strong sector uptake to overcome operational and cost limitations; and
- (B) the Chief Executive Officer be requested to report to Council via a CEO Update:
- (i) the total volumes of asphalt and concrete road pavement materials projected to be used within the City of Sydney's annual road pavement programs;
 - (ii) further information about the proportion of sustainable materials used in road pavement works delivered by the City of Sydney;
 - (iii) further advice regarding the barriers that may be limiting the use of materials already trialled, and what further consideration is being given to overcome these barriers;
 - (iv) further detail about what other sustainable materials are planned to be trialled in infrastructure pavements, including consideration of recycled sand and low carbon asphalt;
 - (v) a summary of the findings resulting from the trial of geopolymer concrete in the road pavement on Wyndham Street, Alexandria; and
 - (vi) a summary of the findings resulting from the use of recycled crushed glass in the asphalt pavement on Clarence Street, Sydney.

Carried unanimously.

X113762