

## **Fine Asphalt Trials for low traffic volume urban roads in South Australia**

**R Ellis<sup>1</sup>**

<sup>1</sup>Tonkin Consulting, Adelaide, SA

The aim of the Fine Asphalt trial was to evaluate asphalt mixes through field trials that are specifically intended for use on residential streets carrying less than 100 commercial vehicles per lane per day with a structural design level less than  $5 \times 10^5$  Equivalent Standard Axles (ESAs) and light free flowing traffic.

Field trials were conducted between 2015-2018 as a follow on to trials undertaken in 2012.

The outcomes of the 2012 trials funded through LGA Research Fund guided a specification development in collaboration with Department of Planning Transport and Infrastructure (DPTI).

In March 2015, funding was secured from the contributing Councils to assess the performance of Fine AC10 asphalt through the installation of 15 trial sites across metropolitan Adelaide. The Fine AC10 specification, now part of DPTI's Master Specification, was used for these trials.

The technical characteristics of the asphalt designs include a fine dense graded aggregate distribution in combination with a high binder content.

The aim was to create mixes that are easy to compact in a residential environment and have a long life. By constructing low insitu air voids, it reduces the permeability of the mixes, which helps to protect the underlying granular layers and limits oxidation aging of the binder. Some of the trial mix designs included Reclaimed Asphalt Pavement (RAP) and warm mix asphalt (WMA) and wide use of C170 binder.

This project was conducted in collaboration between ten municipalities and four asphalt contractors with the coordinating support of IPWEA-SA. Rod Ellis from Tonkin Consulting has lead the project for the last 6 years.

This paper outlines the findings of the trials published in 2018 and provides recommendations for further work based on the learnings of this project.