

**In this study, an Artificial Neural Network**

**(ANN) model has been developed to estimate Marshall Stability (MS) of lightweight asphalt concrete containing expanded clay. In the model, amount of bitumen (%), transition speed of ultrasound ( $\mu$ s), unit weight (gr/cm**

**3)**

**were used as inputs and Marshall Stability (kg) was used as output. Developed ANN model results and the experimental results were compared and good relationship was found.**