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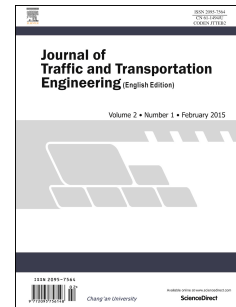
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Original research paper

Characterization of subgrade soil mixed with recycled asphalt pavement

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Highlights

- Effect of recycled asphalt pavement (RAP) in the subgrade has been investigated.
- The resilient modulus of RAP mixed soil increases with the applied stress.
- The resilient modulus of RAP mixed soil is less sensitive to confining pressure.
- The resilient modulus value reaches a maximum at the optimum moisture content.

Abstract

Due to awareness to greener environment, use of recycled asphalt material has become popular in asphalt pavement industry. The use of recycled asphalt pavement (RAP) materials in subgrade soil can be an additional scope of utilizing RAP. This study investigates the effect of RAP on the resilient modulus (M_R) of subgrade soils mixed with RAP materials. Note that M_R is the principal material input parameter for designing asphalt pavement using the recent mechanistic-empirical pavement design software. As a first step of the current study, different percentages of RAP and moisture were thoroughly mixed with subgrade soils. Then, the M_R of these RAP mixed soils were determined using the AASHTO T 307 (1999) at different stress levels in the laboratory. Results show that the M_R of RAP mixed soil

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