

This page contains information about research projects that are currently underway.

- Project Description:

This project will test a Portland cement concrete mixture that utilizes graded, but unprocessed, recycled asphalt pavement (RAP) to replace a percentage of the coarse aggregate. This mixture utilizes up to 50% RAP replacement and produces concrete compressive strengths over 4000 psi. In order to determine the full feasibility of using this mixture in construction, several studies will be done including the mixtures durability, ductility, crushing rate of strain, and bond strength with reinforcing steel.

- The objectives of this project are:

1. Determine the strain rate of crushing of concrete mixtures with various RAP replacement percentages and compare the results to existing values used in concrete design equations.
2. Determine the durability of concrete mixtures with various RAP replacement percentages and compare the results to a control concrete mix (i.e. without RAP).
3. Determine the ductility of concrete mixtures with various RAP replacement percentages and compare the results to a control concrete mix.
4. Determine the strain rate of crushing of concrete mixtures with various RAP replacement percentages and compare the results to current values used in AASHTO and ACI design equations.
5. Determine the bond strength between reinforcing steel and concrete mixtures with various RAP replacement percentages and compare them to a control concrete mix.
6. Integrate the results of this study into ITD specifications for coarse aggregate use in concrete mixes.

- Estimated Completion Date: February 01, 2015

- Budget: \$38,312.00

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