

Alternatives to Oil-based Binders for Asphalt Concrete Paving

Literature Review

Alternative PMAs reduced damage accumulation rate enhanced failure limit of mixtures. – Yu Yan

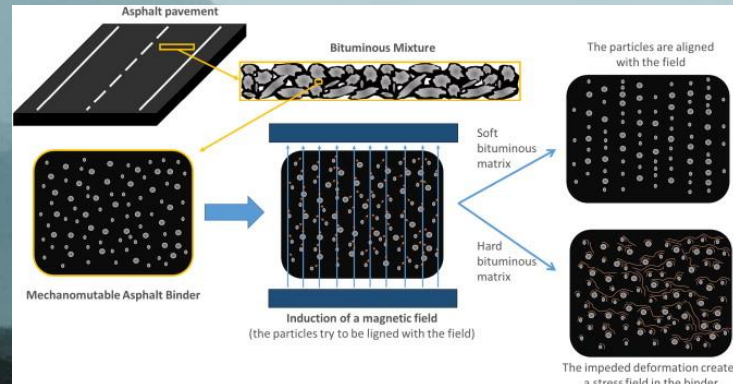
HDPE improved binder's high-temperature performance but decreased elastic recovery. – Liliana Costa

Data Collection

The collection strategy for this project will be qualitative with the intent to find a new binder that will be cost effective, sustainable, and feasible.

Methodology

The methodology of this project will be Action Based Research. I will first research the principles of asphalt binders and what possible alternatives could be. I will then take this information and mix batches of asphalt with the new binder to see how they perform. I will lastly review the feasibility of this new binder mix.



Hypothesis

If there is a substitute for the traditional asphalt binders used in the industry today, how can the help protect the environment and reshape the industry?