**Arkansas State Highway and Transportation Department**

**Transportation Research Committee**

## RESEARCH PROBLEM STATEMENT

**DATE:** 09/09/2016  
**PROJECT AREA:** Special Projects

**TITLE:** Biofuel Feedstocks in AHTD’s managed marginalized lands as an alternative energy fuel source or revenue opportunity

### PROBLEM STATEMENT:

Biofuels are derived from multiple renewable bioenergy feed stocks including animal fats, wood, starchy grains, and oil seeds. Transportation agencies have considered growing the latter two on underutilized and nontraditional lands that they manage such as in the Right of Way (ROW), abandoned weigh stations, and maintenance yards. These crops provide the opportunity to generate revenue or supplement fuel once converted and offer a solution to increasing fuel costs and instability by creating a “home-grown” alternative. Biofuels are non-toxic, biodegradable, and emit less Green House Gasses (GHG) than fossil fuels therefore allowing agencies to meet sustainability goals and regulations. Furthermore, they enable land managers to achieve soil erosion and roadside aesthetic strategies. GIS mapping was used to identify qualified land parcels and analyzed across literature reviews and crop eligibility. Data determined that soybean is the best suited biofuel feedstock for Arkansas with camelina and canola showing possibilities as well. Based on compiled data, Arkansas manages 21,489 acres of marginalized land.

### OBJECTIVES:

To determine if a biofuel concentrated renewable energy installations (REI) in AHTD’s managed marginalized lands is financially and environmentally beneficial for Arkansas.

### FORM OF RESEARCH IMPLEMENTATION:

Determine what type of feedstock is best suited for the endeavor. Identify the best fit land parcels of land. Establish the type of management practice to use; does AHTD harvest manage and harvest the feedstock, contract out the work, or engage in a power purchasing agreement (PPA) with a local energy provider?

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**Estimated Project Duration:** 24