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Use of GPR to Monitor Pavement Subsurface Condition

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In this study, GPR is accommodated to delineate pavement layer thickness, debonding, presence of moisture, voids under AC layer, and other issues that are normally assessed through coring. For this study, an enhanced GPR scanning system will be identified and deployed in order to efficiently collect pavement layer thickness data, locations of voids, water table, and subsurface conditions. For the accuracy of data retrieved by the GPR unit, the research team will calibrate the GPR scanning system with a combination of modules and frequencies for appropriate pavement type and profile depth before the selected site investigations take place. Eventually, the pavement subsurface profile and potential soil failure area are identified based on GPR database, so that pavement surface distress can be identified and analyzed in conjunction with subsurface profile and post-processing data.