ASPIRE is funded by NSF with the vision to achieve a sustainable future for transportation through widespread electrification of roadway vehicles. ASPIRE strives to develop charging solutions that provide power to all classes of vehicles both while parked and in-motion. New fundamental insights will be gained in methods and materials to integrate charging infrastructure into long life pavements. New data science innovations in data-driven modeling, complex optimization, co-simulation of complex systems, diverse data sets of electrical power and transportation systems, and vehicular charging infrastructure; and end users will have game changing impact on systems design, optimization, and implementation. New environmental, economic, behavioral, and social science models and frameworks will be developed to allow the team to break out of conventional thinking when considering the societal, consumer and market perspectives of integration with technology elements. New enabling technologies will be developed in smart powered parking, roads, and charging hubs and validated through a robust testbed program with systems-level approach and a suite of enabling technology testbeds throughout the United States.