There are approximately 583,000 bridges in the U.S., with 235,000 made from conventional reinforced concrete. About 15% of them are considered structurally deficient due to the corrosion of steel reinforcement. Per NACE, annual direct cost estimates total $8.3 billion. Since replacing and maintaining bridges from corrosion issues are very costly, other alternatives needed to be considered to at least mitigate these costs if not avoid them completely.

Thus, GFRP rebar has been introduced as a main reinforcement and great replacement for the ordinary steel reinforcement. GFRP is an excellent corrosion resistant. But, unfortunately, there are very scarce information about its performance and durability issues.