In this talk I will describe some necessary and some sufficient conditions for quasiconformal and quasisymmetric embeddability of metric spaces into the plane (and higher dimensional Euclidean spaces). The main examples will be planar domains and metric Sierpinski carpets. Sufficient conditions usually involve bounds on the transboundary modulus of Schramm (a "transboundary Loewner condition"), while upper bounds use Bonk-Kleiner uniformization of spheres. In some cases the two conditions coincide and provide a complete characterization of embeddability. The talk is partly based on joint work with Wenbo Li (City College of CUNY). (Received February 05, 2019)