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We introduce virtual and welded link homotopy. Two virtual (respectively welded) link diagrams are homotopic if one may be transformed into the other by a sequence of extended Reidemeister moves, classical Reidemeister moves, and self crossing changes. Using this definition, we note several differences between the virtual, welded, and classical cases. We extend Milnor's  $\mu$  and  $\bar{\mu}$  invariants to welded and virtual links and demonstrate that in certain cases the  $\mu$  invariant distinguishes whether or not a virtual (welded) link is homotopic to a classical link. We conclude with the  $\bar{\mu}$  invariant of several two and three component virtual link diagrams. (Received September 16, 2006)