In 2003, Ozsvath and Szabo defined the concordance invariant $\tau$ for knots in oriented 3-manifolds as part of the Heegaard Floer homology package. In 2011, Sarkar gave a combinatorial definition of $\tau$ for knots in $S^3$ and a combinatorial proof that $\tau$ gives a lower bound for the slice genus of a knot. Recently, Harvey and O’Donnol defined a relatively bigraded combinatorial Heegaard Floer homology theory for transverse spatial graphs in $S^3$, extending $HFK$ for knots. We define a $\mathbb{Z}$-filtered chain complex for balanced spatial graphs whose associated graded chain complex has homology determined by Harvey and O’Donnol’s graph Floer homology. We use this to show that there is a well-defined $\tau$ invariant for balanced spatial graphs generalizing the $\tau$ knot concordance invariant. In particular, this defines a $\tau$ invariant for links in $S^3$. Using techniques similar to those of Sarkar, we show that our $\tau$ invariant is an obstruction to a link being slice. (Received September 21, 2015)