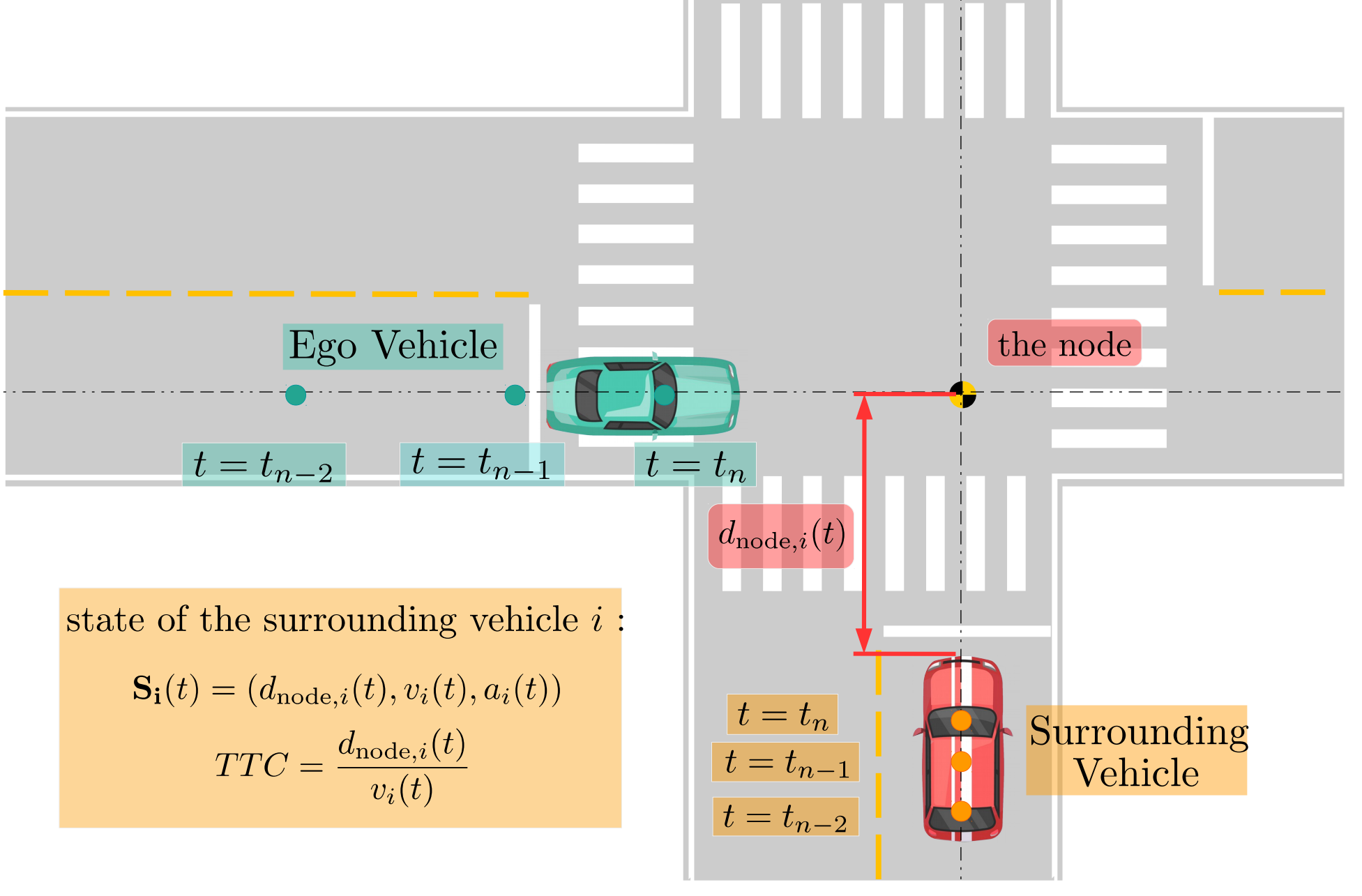

state of the surrounding vehicle i :

$$\mathbf{S_i}(t) = (d_{\text{node},i}(t), v_i(t), a_i(t))$$

$$TTC = \frac{d_{\text{node},i}(t)}{v_i(t)}$$