

$$t = t_{n-2}$$
 $t = t_{n-1}$ $t = t_n$

state of the surrounding vehicle i:

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

$$\mathbf{TTC} = \frac{\mathbf{d_{node,i}}}{\mathbf{v_i}}$$

 $d_{node,i,t}$

$$t = t_n$$

$$t = t_{n-1}$$

$$t = t_{n-2}$$

Surrounding Vehicle

the node