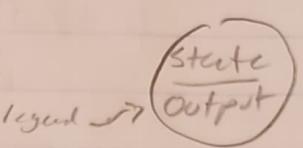# HW3 #1 State Machine MAX BUCK3

inputs: clk, rst_n, tmr_full, sum_gt_min, sum_lt_min,
diff_gt_1_4, diff_gt_15_16

outputs: clr_tmr, en_steer, rider_off

legend → (State / Output)

1. sum of rider weight > min (initial state)
2. enter stabilize state where local diff < 1/4 for 1.3s
3. enter steer_en state, exit if sum_lt_min = 1 or diff_gt_15_16 = 1

rst-n

initial state

$\overline{sum\_gt\_min}$

$\dfrac{sum\_lt\_min}{clr\_tmr \cdot ridr\_off}$

sum_gt_min

stabilize / ridr_off

$\dfrac{diff\_gt\_1\_4}{clr\_tmr}$

$\dfrac{sum\_lt\_min}{en\_steer \cdot ridr\_off}$

$\dfrac{diff\_gt\_15\_16}{en\_steer}$

$\overline{tmr\_full} \cdot \overline{diff\_gt\_1\_4}$

Steering enabled / rider_off · en_steer