```c
#include "semaforo.h"
//privadas
    //VARIABLES
    static eLight_State Light_state; //Estado actual del sistema
    static long Time_in_state; // tiempo en el estado
    //Funciones para las luces
    void light_On(uint8_t port_led){
        PORT |= (1<<port_led);
    }
    void light_Off(uint8_t port_led){
        PORT &= ~(1<<port_led);
    }
    void CONFIG_Light(){
        PORT_CONF|=((1<<PORT_RED)|(1<<PORT_AMBER)|(1<<PORT_GREEN));
        light_Off(PORT_RED);
        light_Off(PORT_AMBER);
        light_Off(PORT_GREEN);
    }
//Publicas
    //Funciones
    void TRAFIC_LIGHT_Init(eLight_State START_STATE){
        CONFIG_Light();
        Light_state=START_STATE; //poner un estado inicial
        Time_in_state=0;
    }
    void TRAFIC_LIGHT_Update(void){
        switch(Light_state){
            case RED:
                //actualizar salida
                light_On(PORT_RED);
                light_Off(PORT_AMBER);
                light_Off(PORT_GREEN);
                //Cambio de estado
                if(++Time_in_state==RED_DURATION){
                    Light_state=RED_AMBER;
                    Time_in_state=0;
                }
                break;
            case RED_AMBER:
                //actualizar salida
                light_On(PORT_RED);
                light_On(PORT_AMBER);
                light_Off(PORT_GREEN);

                if(++Time_in_state==RED_AMBER_DURATION){
                    Light_state=GREEN;
                    Time_in_state=0;
                }
                break;
            case GREEN:
                //actualizar salida
                light_Off(PORT_RED);
                light_Off(PORT_AMBER);
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                light_On(PORT_GREEN);
                if(++Time_in_state==GREEN_DURATION){
                    Light_state=AMBER;
                    Time_in_state=0;
                }
                break;
            case AMBER:
                //actualizar salida
                light_Off(PORT_RED);
                light_On(PORT_AMBER);
                light_Off(PORT_GREEN);
                if(++Time_in_state==AMBER_DURATION){
                    Light_state=RED;
                    Time_in_state=0;
                }
                break;
        }
    }
```