```c
#include <stdio.h>
#include <stdlib.h>
#include <wiringPi.h>
#include <stdint.h>
#include <unistd.h>

#define INPUT  0
#define OUTPUT 1

#define goE        0
#define flashOnE   1
#define flashOffE  2
#define goN        3
#define flashOnN   4
#define flashOffN  5
#define waitButton 6

int buttonValue = 0;
uint32_t counter = 0;

typedef struct State
{
    uint32_t out[6];
    uint32_t time;
    uint32_t next[4];
} State;

State FSM[7] = {
    {{1, 0, 0, 0, 0, 1}, 100, {goE, goE, flashOnE, flashOnE}},
    {{1, 0, 0, 0, 1, 0}, 200, {flashOffE, goN, flashOffE, goN}},
    {{1, 0, 0, 0, 0, 0}, 200, {flashOnE, flashOnE, flashOnE, flashOnE}},
    {{0, 0, 1, 1, 0, 0}, 1000, {goN, flashOnN, goN, flashOnN}},
    {{0, 1, 0, 1, 0, 0}, 500, {flashOffN, waitButton, flashOffN, waitButton}},
    {{0, 0, 0, 1, 0, 0}, 500, {flashOnN, flashOnN, flashOnN, flashOnN}},
    {{1, 0, 0, 0, 0, 1}, 30000, {goE, goE, goE, goE}},
};

void clockWrite(int time){
    printf("Display: %d\n\n", time);
}

int main()
{
    int currState;
    uint32_t inputs = 0;

    sleep(1);
    currState = goE;
    while (1)
    {
        printf("Current state: ");
        if (currState == 0)
        {
            printf("Go east\n");
        }
        else if (currState == 1)
        {
            printf("Flash on east\n");
        }
        else if (currState == 2)
        {
            printf("Flash off east\n");
        }
        else if (currState == 3)
        {
            printf("Go north\n");
        }
        else if (currState == 4)
        {
            printf("Flash on north\n");
        }
        else if (currState == 5)
        {
            printf("Flash off north\n");
        }
        else if (currState == 6)
        {
            printf("Wait for button\n");
        }

        printf("\nTraffic Light Red: %d\n", FSM[currState].out[0]);
        printf("Traffic Light Blue: %d\n", FSM[currState].out[1]);
        printf("Traffic Light Green: %d\n", FSM[currState].out[2]);
        printf("Pedestrian Light Red: %d\n", FSM[currState].out[3]);
        printf("Pedestrian Light Blue: %d\n", FSM[currState].out[4]);
        printf("Pedestrian Light Green: %d\n\n", FSM[currState].out[5]);
        printf("Counter: %d\n\n", counter);

        if (currState == goN)
        {
            clockWrite(20 - counter);
            counter++;
        }
        if (currState == flashOnN)
        {
            clockWrite(10 - counter);
            counter++;
        }

        sleep(FSM[currState].time/1000);

        if (currState == flashOnE)
        {
            counter++;
        }

        inputs = 0;
        if (currState == goE) // Simulated button press
        {
            buttonValue = 1;
        }
        if (buttonValue)
        {
            inputs += 2;
        }
        if (currState == goE) // Simulated button release
        {
            buttonValue = 0;
        }

        if (counter == 10)
        {
            inputs += 1;
            counter = 0;
        }

        printf("Inputs: %d\n\n", inputs);
        printf("----------------------------------------------\n\n");
        currState = FSM[currState].next[inputs];
    }
}
```