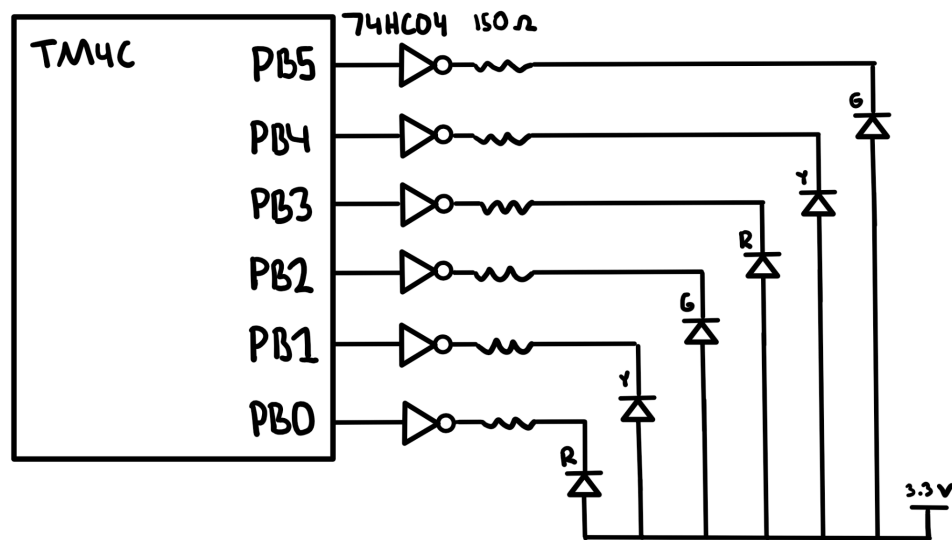


## Circuit Design



The system controls traffic in two directions: North-South (NS) and East-West (EW). The traffic lights follow a repeating 26-second cycle, during which different combinations of red, yellow, and green LEDs turn on to manage the traffic flow.

1. NS Green, EW Red (10 seconds)
  - North-South traffic moves
  - East-West traffic stops
2. NS Yellow, EW Red (2 seconds)
  - North-South traffic prepares to stop
  - East-West traffic still stopped
3. All Red (1 second)
  - All traffic is stopped
4. NS Red, EW Green (10 seconds)
  - North-South traffic stops
  - East-West traffic moves
5. NS Red, EW Yellow (2 seconds)
  - North-South traffic still stopped
  - East-West traffic prepares to stop
6. All Red (1 second)
  - All traffic is stopped before the cycle repeats