```
                          ┌─────────────────┐
                          │   SYSTEM ON     │
                          └────────┬────────┘
                                   │
                 ┌─────────────────▼──────────────────┐
                 │ Install 2 Train Sensors + Motion    │
                 │      Detection Camera               │
                 └─────────────────┬──────────────────┘
                                   │
                  ◇ Train Approaching? (Sensor 1) ◇──── No ────►
                                   │
                                  Yes
                                   │
                 ┌─────────────────▼──────────────────┐
                 │     Warn Vehicles (Yellow Signal)   │
                 └─────────────────┬──────────────────┘
                                   │
                 ┌─────────────────▼──────────────────┐
                 │   Lower Gates + Red Signal for      │◄───────┐
                 │            Vehicles                 │        │
                 └─────────────────┬──────────────────┘        │
                                   │                           │
               ◇ Vehicle Stuck on Track?                       │
               (Motion Detection Camera) ◇──── Yes ──► Red Signal for Train
                         │                                      │
                        No                                      │
                         │                                      │
              ┌──────────▼─────────┐                            │
              │ Green Signal for   │                            │
              │      Train         │                            │
              └──────────┬─────────┘                            │
                         │                                      │
              ◇ Train Passed? (Sensor 2) ◇──── No ──────────────┘
                         │
                        Yes
                         │
       ┌─────────────────▼──────────────────┐
       │ Raise Gates + Green Signal for      │◄──────────
       │ Vehicles and Yellow (Warning)       │
       │      Signal for Trains              │
       └─────────────────┬──────────────────┘
                         │
              ┌──────────▼─────────┐
              │ SYSTEM CONTINUES   │
              │    MONITORING      │
              └────────────────────┘
```

LOGIC FLOW FOR TWO-SENSOR RAILWAY LEVEL CROSSING SAFETY SYSTEM