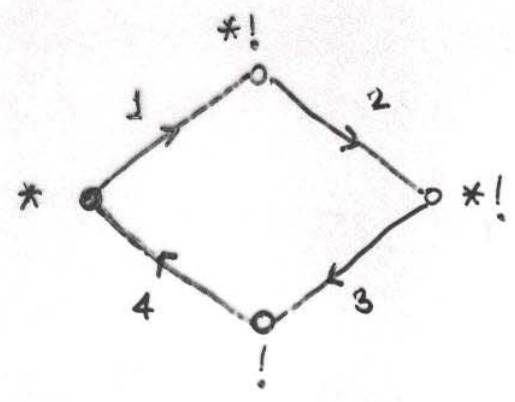


# Traffic Control Example



! = detector  
 \* = stop-light

- Single one-way track with four sections shared by two vehicles
- State = section location of two vehicles  
 $(x_1, x_2) =$  vehicle 1 in section  $x_1$ , vehicle 2 in section  $x_2$
- Event,  $\sigma_{ij} =$  vehicle  $i$  leaves section  $j$  (enters  $(j+1) \bmod 4$ )
- Event set  $\Sigma = \{ \sigma_{ij} \mid i \leq 2, j \leq 4 \}$
- State set  $X = \{ (x_1, x_2) \mid x_1 \leq 4, x_2 \leq 4 \}$
- $\Sigma_o \subseteq \Sigma$  observable events
- $\Sigma_c \subseteq \Sigma$  controllable events
- Initially vehicle  $i$  in section  $i$
- Design controller for stop-lights
  - vehicles never share track section
  - maximum freedom of movement