

## I-44

The driver of a car traveling at 35 m/s suddenly sees a police car. The driver attempts to reach the speed limit of 25 m/s by accelerating at  $2.5 \text{ m/s}^2$ . The driver has a reaction time of 0.55 s. (The reaction time is the time between first seeing the police car and pressing the brake.)

### Motion Diagram



### Motion Information

Event 1:

Event 2:

Event 3:

$t_1 =$

$t_2 =$

$t_3 =$

$r_1 =$

$r_2 =$

$r_3 =$

$v_1 =$

$v_2 =$

$v_3 =$

$a_{12} =$

$a_{23} =$

### Mathematical Analysis