

## I-46

A subway train in Washington, D.C., starts from rest and accelerates at  $2.0 \text{ m/s}^2$  for  $12 \text{ s}$ . The train travels at a constant speed for  $65 \text{ s}$ . The speed of the train then decreases for  $25 \text{ s}$  until it reaches the next station.

### Motion Diagram



### Motion Information

Event 1:	Event 2:	Event 3:	Event 4:
$t_1 =$	$t_2 =$	$t_3 =$	$t_4 =$
$r_1 =$	$r_2 =$	$r_3 =$	$r_4 =$
$v_1 =$	$v_2 =$	$v_3 =$	$v_4 =$
$a_{12} =$	$a_{23} =$	$a_{34} =$	

### Mathematical Analysis