

### Initial Speed, $v_0$ , and Stopping Distance, $d_s$

- uniform acceleration with drag coefficient,  $f$
- including perception-decision-reaction time,  $t_{pdr}$

Unit  
Conversion

US

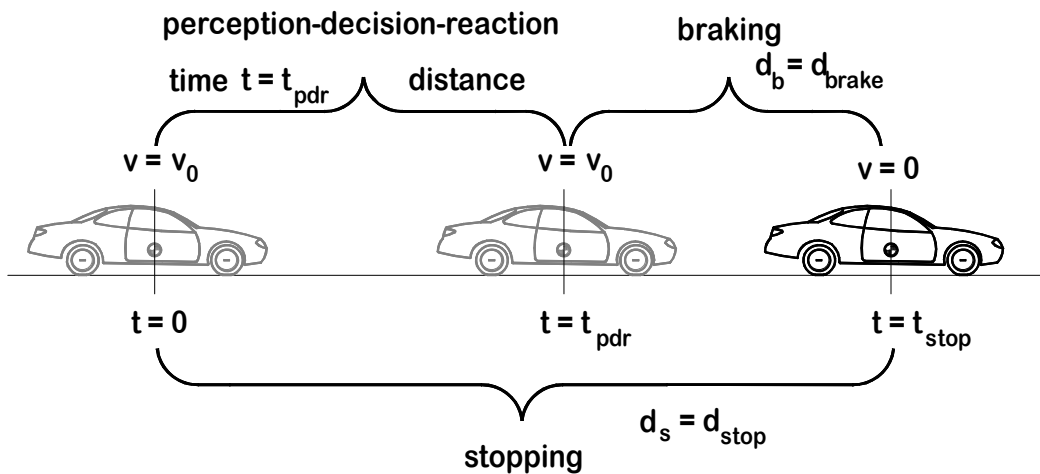
g, ft/s<sup>2</sup> 32.17 frictional drag coefficient coeff,  $f$  **0.70** perception-decision-reaction time  $t_{pdr}$ , S **1.25**

**A** Determine *unknown* distance,  $d_s$ , from *known* speed,  $v_0$ , time,  $t_{pdr}$ , and drag,  $f$

$v_0$  mph **30.00**  $v_0$  ft/s 44.00  
 $d_s$  ft **98.0**  $d_{pdr}$  ft **55.0**  $d_b$  ft **43.0**  $t_{brake}$  S **1.95**  
 $t_{stop}$  S **3.20**

**B** Determine *unknown* speed,  $v_0$ , from *known* distance,  $d_s$ , time,  $t_{pdr}$ , and drag,  $f$

$d_s$  ft **97.98**  
 $v_0$  ft/s **44.00**  $d_{pdr}$  ft **55.0**  $d_b$  ft **43.0**  $t_{brake}$  S **1.95**  
 $v_0$  mph **30.0**  $t_{stop}$  S **3.20**



Brach Engineering

**VCRware**<sup>TM</sup>

Vehicle Crash Reconstruction Software

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