PROJECT I.D. 2788-00-01

West Waukesha Bypass Genesee Road (STH 59) to Summit Ave (USH 18)

West Waukesha Bypass

LANE CAPACITY

$Ca = (1{,}550 =+ I - R) \times fHV \times fLS \times N$

a. Percent trucks (P_T)= 7.8% (Based on FDM estimates for Wisconsin freeways from Forecast)

b. $E_T = 2.5$ (Highway Capacity Manual rolling terrain factor)

c. Work zone lane capacity = 1550 passenger cars per hour (Rural w/ crossover - FDM 11-50-30.5)

d. fHV = Heavy vehicle adjustment factor = $\quad f_{HV} = (1 / (1 + P_T(E_T - 1)))$

    $f_{HV} = (1 / (1 + .078(2.5 - 1))) = 0.89$

e. fLS = 1

f. Adjusted lane capacity with heavy vehicles = (1550 cars per hour) x (0.89) x1 = 1380 vehicles per hour