Computer Models
For
Fire and Smoke

Model Name:	WAYOUT
Version:	3.6
Date:	2007
Classification:	Egress
Very Short Description:	Computes movement times of evacuation from multi-room and multi-storey buildings – part of FIREWIND collection
Modeler(s), Organization(s):	Victor O. Shestopal, Fire Modelling & Computing, Sydney, Australia
User's Guide:	Manual of FIREWIND
Technical References:	Manual of FIREWIND
Validation References:	Shestopal V.O. "Computer modelling of merging pedestrian traffic". Pedestrian and Evacuation Dynamics 2003. Proc. of the 2-nd Int. Conf., the University of Greenwich, 2003, pp. 395-403.
Availability:	Available from Fire Modelling & Computing (see http://www.optusnet.com.au/~firecomp)
Price:	$Aus400, or $US350 (the entire FIREWIND package)
Necessary Hardware:	Microsoft WINDOWS
Computer Language:	C
Size:	Approximately 600 kB (the entire package of 18 programs)
Contact Information:	FIRE MODELLING & COMPUTING, phone +61 2 9487 4858 fax +61 2 9487 4868, e-mail firecomp@optusnet.com.au, address 66 Westbrook Avenue, Wahroonga, NSW 2076 Australia

Detailed Description:

Evacuation model WAYOUT computes traffic flow in emergency situations from multi-room and multi-storey buildings. Only merging traffic flows are considered. In case of branching flows, a user is supposed to draw watersheds to divide the flows and compute them separately.

The model is based on a non-linear flow algorithm utilizing an experimentally obtained speed – density dependence by Predtechenskii & Mininskii. The model includes a trend of the pedestrian flow to jump into the maximum-density mode when the flow intensity reaches a critical value.

Verification of the model against available test data has been made and points to a slightly conservative character of the computed results.