It is another optional, non-exclusive object of the present invention to provide mechanisms and techniques for supplying human pilots with information in manners designed to assist the pilots in coping with probable degradation of ground deceleration performance of their associated vehicles.

It is also an optional, non-exclusive object of the present invention to provide display units with visual indicators designed to illuminate in the normal peripheral fields of view of the pilots.

It is a further optional, non-exclusive object of the present invention to provide aural alerts to pilots.

It is, moreover, an optional, non-exclusive object of the present invention to provide colored cues to vehicle operators, with different colors signifying different levels of required action.

It is an additional optional, non-exclusive object of the present invention to provide display indicators in which individual or sets of red and amber pixels may flash or be illuminated steadily depending on actual or anticipated conditions.

It is another optional, non-exclusive object of the present invention to provide an option for an alert as described above to signal an automatic flight control response designed to mitigate the landing risk such as, but not limited to, automatic employment of maximum wheel brake effort, ground spoilers, or thrust reverse.

According to a first aspect of the present invention, there is provided a method of displaying, to an operator of a vehicle having at least one generally forward-facing window, information relevant to hazards existing or expected in connection with ground deceleration of the vehicle, the method comprising: a. electronically processing information relating to vehicle-performance hazards existing or expected in connection with ground deceleration of a vehicle; and b. displaying the processed information in the normal forward-looking field of vision of the operator through the window.

According to a second aspect of the present invention, there is provided an alerting device for a vehicle, comprising: a. a display configured to provide (1) flashing amber pixels, (2) flashing red pixels, (3) alternating flashing amber or red pixels or both amber and red pixels, (4) steady illumination of amber pixels, and (5) steady illumination of red pixels; and b. means for positioning the display in a field of vision of an operator of a vehicle.

According to a third aspect of the present invention, there is provided an aircraft configured for operation by an operator and comprising: a. a cockpit; and b. an alerting device comprising means for displaying, in the normal forward-looking field of vision of the operator, information relevant to hazards existing or expected in connection with ground deceleration of the vehicle as it travels along a runway.

Other objects, features, and advantages of the present invention will be apparent to those appropriately skilled in the art with reference to the remaining text and drawings of this application.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a simplified, operator's-eye view of a runway or similar surface along which a vehicle may travel together with exemplary alerting devices.

FIG. 2 is a front view of an alerting device of FIG. 1.

FIG. 3 is a side view of the alerting device of FIG. 2.

FIG. 4 is a flow diagram identifying exemplary conditions affecting presentation of information by the alerting device(s) of FIGS. 1-3.