WHAT IS CLAIMED IS:

1. An automatic displacement device for use in a carrier having a body that accommodates at least one heavy object, comprising:

at least one weight mount for holding the heavy object;

at least one actuator coupled to the weight mount;

at least one safety regulator electrically communicated to the actuator, the at least one safety regulator including:

at least one sensor for measuring motion states of the carrier relative to surrounding objects and outputting signals representative of the motion states, wherein the at least one sensor further includes a position determination unit for determining a location of the carrier; and

at least one controller configured to receive the signals outputted from the sensor, wherein the controller includes a memory unit containing road information; if the carrier is at risk of a traffic accident, the at least one controller issues a command to the actuator to move the heavy object away from an estimated impact point and thus provide additional buffer space for the heavy object.

2. The automatic displacement device of claim 1, wherein the sensor includes at least one distance/velocity measurement unit.

3. The automatic displacement device of claim 2, wherein the distance/velocity measurement unit employs a technique of optical emission/return measurement.

4. The automatic displacement device of claim 1, wherein the weight mount

includes:

at least one support component for bearing the weight of the heavy object; and

a buffer component horizontally disposed between the heavy object and the support component.

5. In a method for controlling an automatic displacement device used in a carrier having a body that accommodates at least one heavy object, wherein the automatic displacement includes at least one weight mount for holding the heavy object, at least one actuator coupled to the weight mount, and a stability regulator including at least one sensor and at least one controller capable of commanding the actuator to move the weight mount so as to provide a buffer protection for the weight object, the at least one sensor including a position determination unit and a distance/velocity measurement unit, the controller including a memory unit containing road information; the method comprising:

(a) configuring the sensor to measure at least one motion state of the carrier relative to a surrounding object and to output a signal representative of the motion state which includes a velocity of the carrier and a location of the carrier;

(b) configuring the controller to receive the signal representative of the carrier location outputted from the sensor and to access a piece of road information in the memory unit associated with the carrier location; if the carrier is at risk of a traffic accident, the controller issues a command to the actuator; and

(c) configuring the actuator to move the weight mount according to the command so as to move the heavy object away from an estimated impact point and thus provide

a buffer protection for the heavy object.