Claims:

What is claimed is:

1. A method to allow a first ride vehicle deployed along a predefined vehicle path to operate independently of a second ride vehicle deployed along the same predefined vehicle path at substantially the same time in real time, comprising:
    a) determining, in real time, a current location of a first ride vehicle deployed along a predefined vehicle path by using a first vehicle path sensor of a predetermined set of vehicle path sensors deployed about the predefined vehicle path, the first vehicle path sensor comprising a unique position identifier associated with a first predetermined spatial set of coordinates along the predefined vehicle path, and a first ride vehicle sensor interoperative with the first vehicle path sensor, the first vehicle path sensor reactive to proximity of the first ride vehicle detector when the first ride vehicle detector is deployed along the predetermined vehicle path;
    b) determining, in real time, a current location of a second ride vehicle deployed along the predefined vehicle path at substantially the same time as the first ride vehicle using a second vehicle path sensor of the predetermined set of vehicle path sensors deployed about the predefined vehicle path, the second vehicle path sensor comprising a unique position identifier associated with a second predetermined spatial set of coordinates along the predefined vehicle path, and a second ride vehicle detector interoperative with the second vehicle path sensor, the second vehicle path sensor reactive to proximity of the second ride vehicle detector when the second ride vehicle detector is deployed along the predetermined vehicle path;
    c) based on a predetermined set of ride vehicle physical characteristics for each of the first ride vehicle and the second ride vehicle, calculating a set of spatial coordinates describing a first virtual space in real time around the first ride vehicle and a second virtual space in real time around the second ride vehicle, the first virtual space describing coordinates within which the first ride vehicle can operate without the probability of physical contact with the second ride vehicle;

d) calculating a current set of spatial coordinates for the first ride vehicle and the second ride vehicle with respect to the predefined vehicle path in real time;

e) obtaining a first requested set of ride vehicle directives for the first ride vehicle;

f) based on the first requested set of ride vehicle directives for the first ride vehicle, calculating a current stopping distance for the first ride vehicle with respect to the predefined vehicle path in real time;

g) with the calculated set of spatial coordinates for the first ride vehicle and the second ride vehicle, comparing the calculated current stopping distance of the first ride vehicle to the calculated spatial coordinates of the first ride vehicle and the second ride vehicle with respect to the predefined vehicle path in real time;

h) if the currently determined current distance between the first ride vehicle and the second ride vehicle with respect to the predefined vehicle path is greater than the calculated stopping distance, making no change to the set of ride vehicle directives for the first ride vehicle or set of ride vehicle directives for the second ride vehicle; and

i) if the currently determined current distance between the first ride vehicle and the second ride vehicle with respect to the predefined vehicle path is less than the stopping distance, changing either or both of the set of ride vehicle directives for the first ride vehicle and set of ride vehicle directives for the second ride vehicle to place the first ride vehicle and the second ride vehicle at a distance within which the first ride vehicle can operate without the probability of physical contact with the second ride vehicle.

2. The method to allow a first ride vehicle currently deployed along a predefined vehicle path to operate independently of a second ride vehicle currently deployed along the same predefined vehicle path of Claim 1, wherein the set of ride vehicle directives comprises speed.

3. The method to allow a first ride vehicle currently deployed along a predefined

vehicle path to operate independently of a second ride vehicle currently deployed along the same predefined vehicle path of Claim 2, wherein changing either or both of the set of ride vehicle directives for the first ride vehicle and set of ride vehicle directives for the second ride vehicle comprises decreasing or increasing the speed of either or both of the first ride vehicle and the second ride vehicle.

4. The method to allow a first ride vehicle currently deployed along a predefined vehicle path to operate independently of a second ride vehicle currently deployed along the same predefined vehicle path of Claim 1, wherein the predetermined set of ride vehicle characteristics comprises a representative outer boundary of each ride vehicle.

5. The method to allow a first ride vehicle currently deployed along a predefined vehicle path to operate independently of a second ride vehicle currently deployed along the same predefined vehicle path of Claim 1, wherein the virtual space is a function of the speed at which the specific ride vehicle is then currently moving along the predefined vehicle path.

6. The method to allow a first ride vehicle currently deployed along a predefined vehicle path to operate independently of a second ride vehicle currently deployed along the same predefined vehicle path of Claim 1, wherein:
   a) the first ride vehicle detector comprises an active sensor;
   b) the second ride vehicle detector comprises an active sensor;
   c) the first vehicle path sensor is passively reactive to proximity of the first ride vehicle detector and triggers the active ride vehicle detector at a predetermined distance between the first vehicle path sensor and the first ride vehicle detector; and
   d) the second vehicle path sensor is passively reactive to proximity of the second ride vehicle detector and triggers the active ride vehicle detector at a predetermined distance between the second vehicle path sensor and the second ride vehicle detector.

7. The method to allow a first ride vehicle currently deployed along a predefined vehicle path to operate independently of a second ride vehicle currently deployed along the same predefined vehicle path of Claim 1, wherein:
    a) the first ride path sensor comprises an active sensor;
    b) the second ride path sensor comprises an active sensor;
    c) the first vehicle path sensor is triggered by the ride vehicle detector at a predetermined distance between the first vehicle path sensor and the ride vehicle detector; and
    d) the second vehicle path sensor is triggered by the ride vehicle detector at a predetermined distance between the second vehicle path sensor and the second ride vehicle detector.

8. The method to allow a first ride vehicle currently deployed along a predefined vehicle path to operate independently of a second ride vehicle currently deployed along the same predefined vehicle path of Claim 1, wherein each of the first and second ride vehicles (10a,10b) communicates with the control system to provide the control system with their currently associated vehicle path sensor's unique position identifiers and to receive their respective sets of the set of ride vehicle directives from the control system.