CLAIMS

1. A system, comprising:

a flume providing a flow path, wherein the flume comprises opposing side walls spaced apart from one another along an axis orthogonal to a direction of flow of the flow path;

one or more vehicles configured to accommodate one or more passengers and configured to move along the flow path in the flume, wherein the one or more vehicles are associated with a length and a width, and the length is longer than the width; and

one or more objects protruding into the flow path, wherein the one or more objects are positioned in the flow path such that the one or more objects are configured to contact a vehicle of the one or more vehicles as the vehicle moves along the flow path and at a contact location on an exterior of the vehicle, wherein the contact location is spaced apart a distance from a center of mass of the vehicle to change a direction or orientation of the vehicle relative to the flow path after the contact location of the vehicle contacts the one or more objects, wherein the flume comprises a first section having the one or more objects disposed therein, wherein the one or more objects are configured to change the direction or orientation of the vehicle relative to the flow path within the first section, wherein the flume comprises a second section configured to direct the vehicle along the flow path, and wherein a first distance between the opposing side walls of the first section is greater than the length of the vehicle and wherein the opposing side walls of the second section are spaced apart from one another a distance less than the length of the vehicle such that the vehicle is capable of rotating to cause a complete reorientation of the vehicle within the first section and not the second section.

2. The system of claim 1, wherein the flume is filled with fluid and wherein a portion of the one or more objects is submerged below a fluid surface of the flow path.

3. The system of claim 1, wherein the one or more objects are positioned within the flume away from and not in contact with a side wall of the flume defining the flow path.

4. The system of claim 1, wherein a portion of the one or more objects is oriented orthogonally to a flow direction of the flow path.

5. The system of claim 1, wherein the one or more objects comprises a wheel comprising spokes extending radially from a shaft and configured to contact the vehicle to cause the wheel to rotate.

6. The system of claim 1, wherein a portion of the one or more objects is formed from a rubber material, a pliable material, an air-filled material, or any combination thereof.

7. The system of claim 1, wherein the vehicle comprises a damping material disposed about the exterior and at the contact location, wherein the damping material is formed from a rubber material, a pliable material, an air-filled material, or any combination thereof.

8. The system of claim 1, wherein the contact location is located on an end section of the vehicle.

9. The system of claim 1, wherein the contact location comprises a region on the exterior within 3 meters of a contact point.

10. The system of claim 9, wherein a second distance between the contact point and the center of mass is at least 30% of a total distance of a longest dimension of the vehicle.

11. The system of claim 1, wherein the contact location comprises a region on the exterior within 1 meter of a contact point.

12. The system of claim 1, wherein the one or more objects comprise a plurality of objects spaced apart from each other within the flow path and wherein each object of the plurality of objects is positioned in the flow path such that each object contacts the vehicle at or near a contact point on the vehicle.

13. The system of claim 1, wherein the one or more objects comprise a plurality of objects spaced apart from each other within the flow path and wherein each object of the plurality of objects is positioned in the flow path such that each object contacts the vehicle to cause at least a 180 degree change in orientation of the vehicle as a result of cumulative changes in orientation.

14. The system of claim 13, wherein the 180 degree change in orientation is a reversal from forward-facing to backward-facing.

15. A method, comprising:

providing a water ride attraction comprising a flume forming one or more intersections of a plurality of flow paths;

providing one or more vehicles configured to move along the plurality of flow paths; providing one or more variable objects positioned within the flume, wherein each of the one or more variable objects is configured to be individually actuated between a first configuration and a second configuration within the flume;

contacting a first vehicle with an individual variable object in the first configuration at a first contact point on a first exterior of the first vehicle to adjust a first vehicle orientation of the first vehicle by a first displacement angle and to cause the first vehicle to enter a first flow path of the plurality of flow paths;

actuating the individual variable object to the second configuration; and contacting a second vehicle with the individual variable object in the second configuration at a second contact point on a second exterior of the second vehicle to adjust a second vehicle orientation of the second vehicle by a second displacement angle different from the first displacement angle and to cause the second vehicle to enter a second flow path of the plurality of flow paths.

16. The method of claim 15, wherein the second vehicle does not enter the first flow path.