**Reflection:**

In this project, we implement a path planning algorithm to drive a car on a highway on a simulator which sends car’s telemetry information(pos and v) and sensor fusion information for other cars on the road(id, pos, v). We generate a point every 0.02 seconds, which is the spacing between points.

**1. Predict lane:**

Check for cars in the front, left and right respectively for a successful lane change. The threshold for the car to be too close was set to 30m.

**2. Behavioral change:**

Increase or decrease speed or change lanes depending on the predictions. Changing lanes sometimes can be better than abruptly applying brakes to prevent collision.

**3. Generate Trajectory:**

Consider 5 points for constructing a spline. 2 points from the previous path and the remaining would be generated using the getXY function.

Road coordinates were then transformed to car coordinates. Numerous points spaced 30 m apart were calculated and transformed back to the road coordinates.

**Possible Improvements:**

Predict other cars behavior by how far they are located from the left or right of their lane.