Equations

```
lateral_acceleration[m/s²] == curvature[1/m] * (speed[m/s])²

lateral_acceleration[m/s²] == yaw_rate[rad/s] * speed[m/s]

turn_radius[m] * curvature[1/m] == 1

direction_x[1] == cos(yaw[rad])
direction_y[1] == sin(yaw[rad])
yaw[rad] == atan2(direction_y[1], direction_x[1])

2 * (braking_deceleration[m/s²]) * (braking_distance[m]) == (initial_speed[m/s])²
```