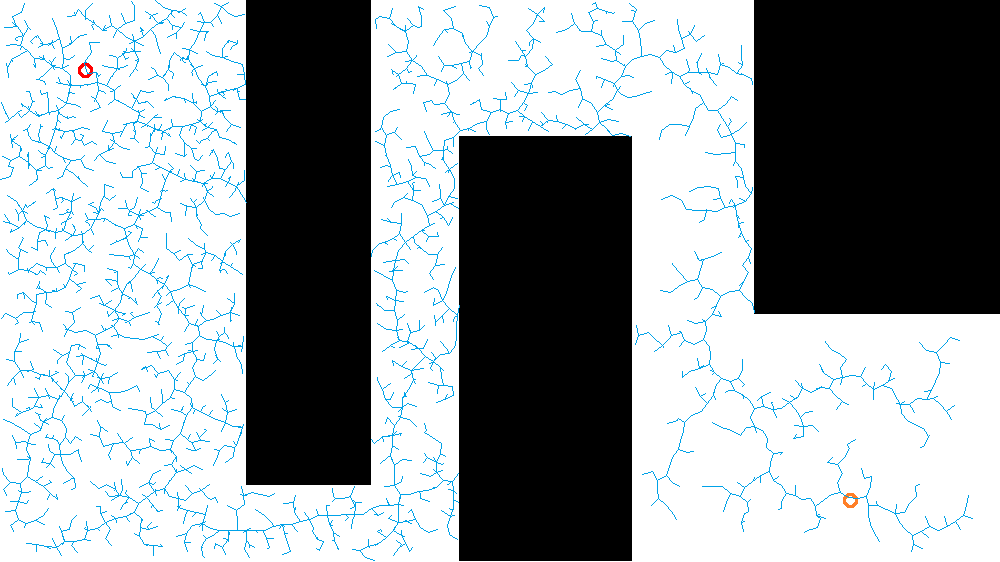
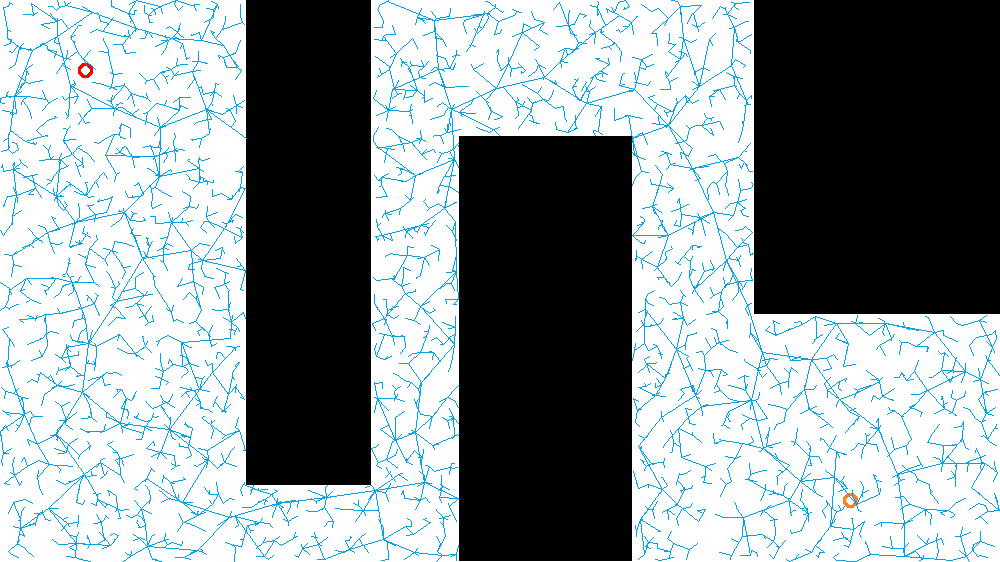
### RRT Test Result

Map Size = 1000 x 562 pixel

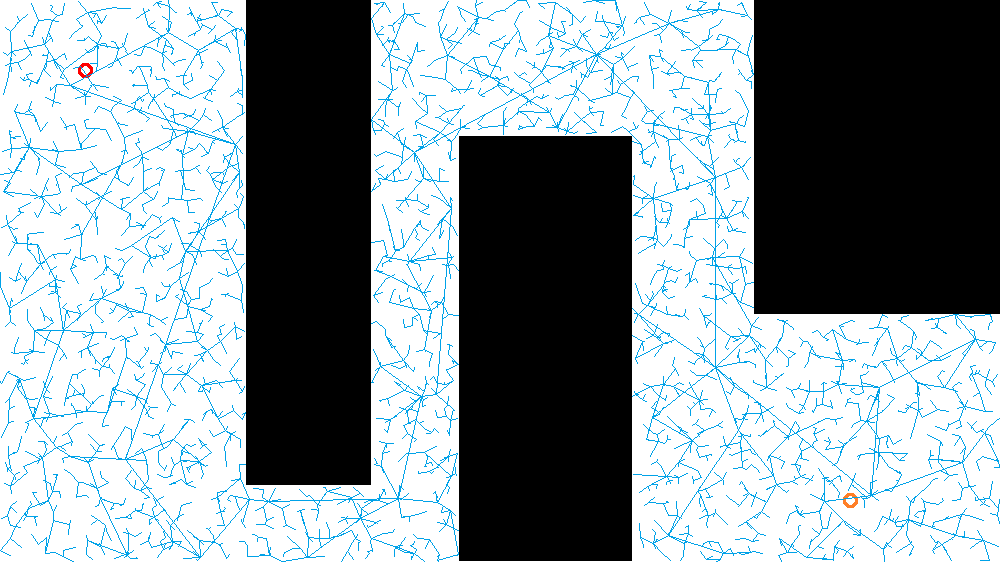
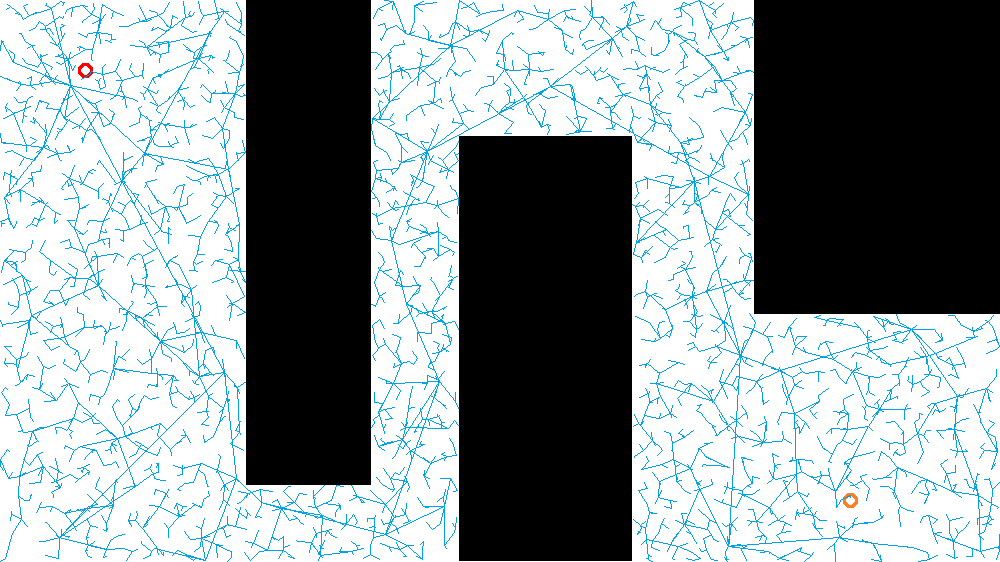
Start (85,70)

Target(850,500)

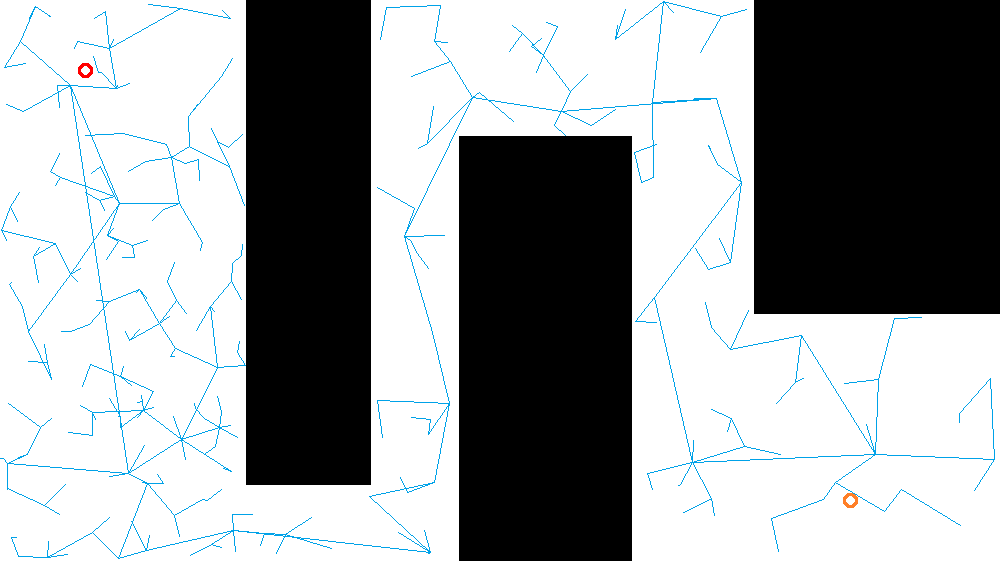
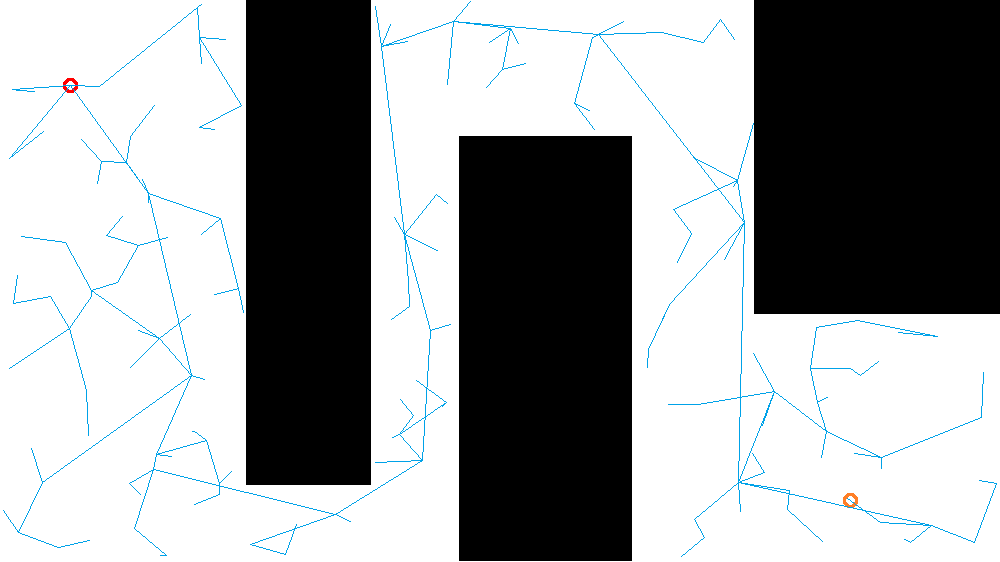
Epsilon =10 , Max Search Tims =4000 Epsilon =50, Max Search Tims =4000

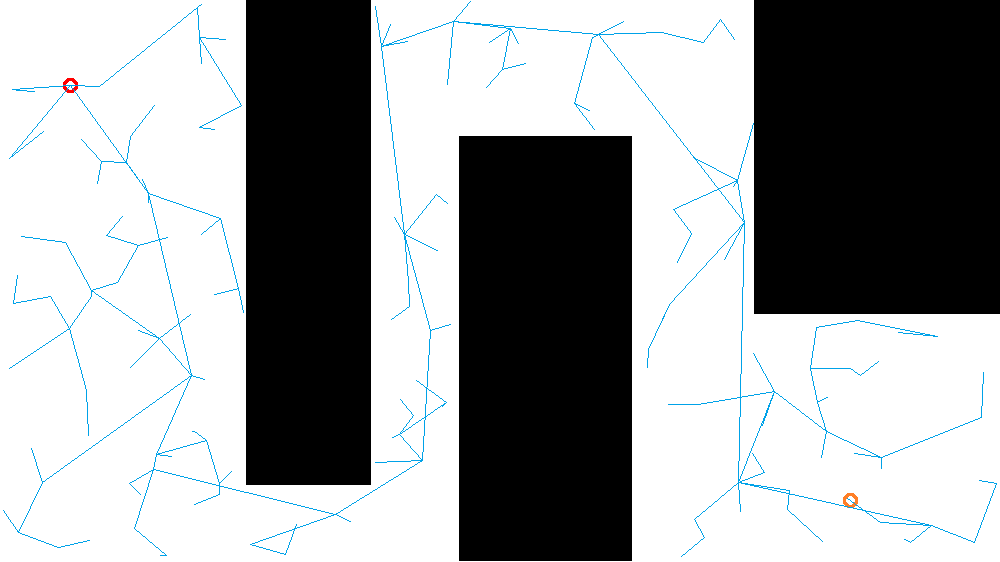
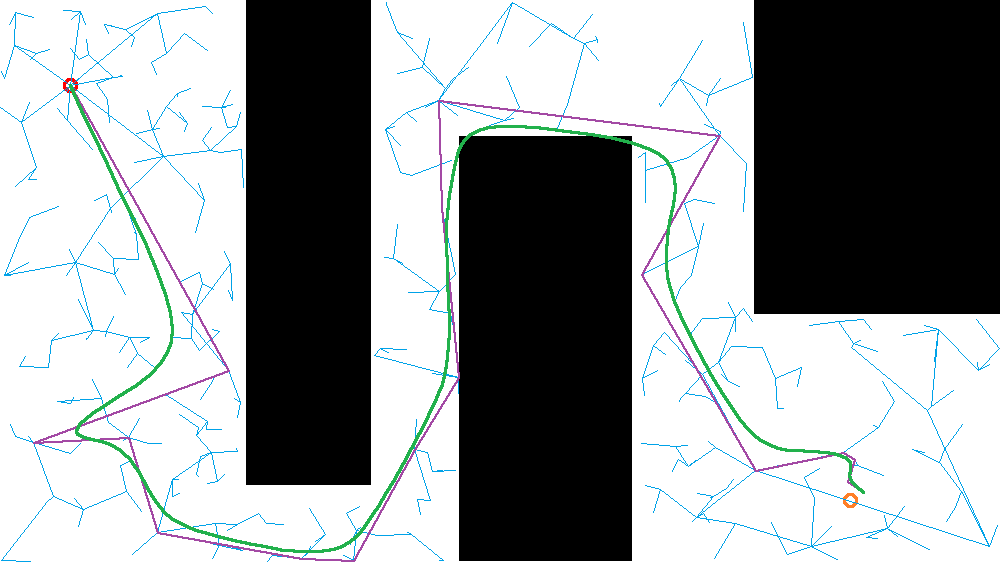
Epsilon =500 ,Max Search Tims =4000 Epsilon =1000 ,Max Search Tims =4000

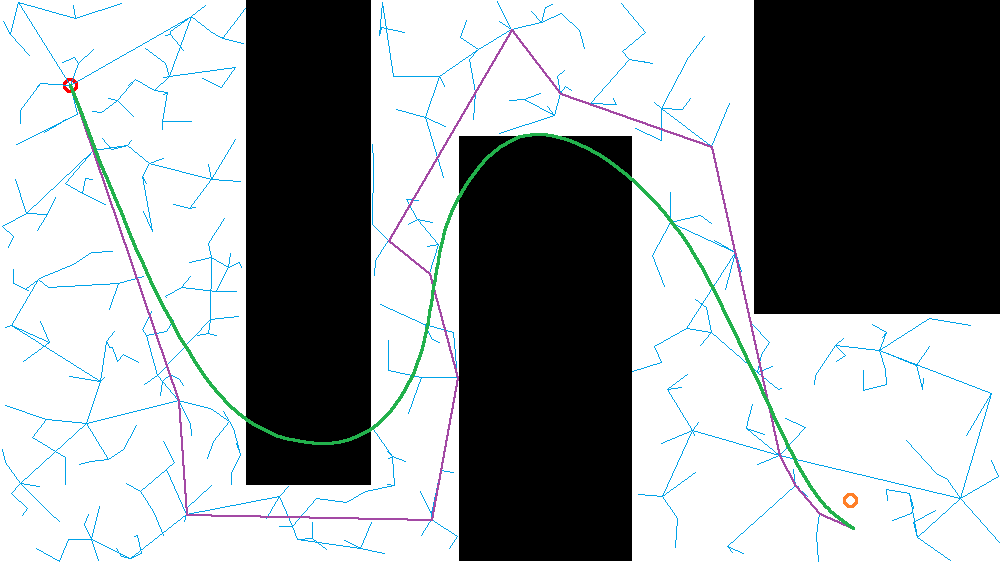
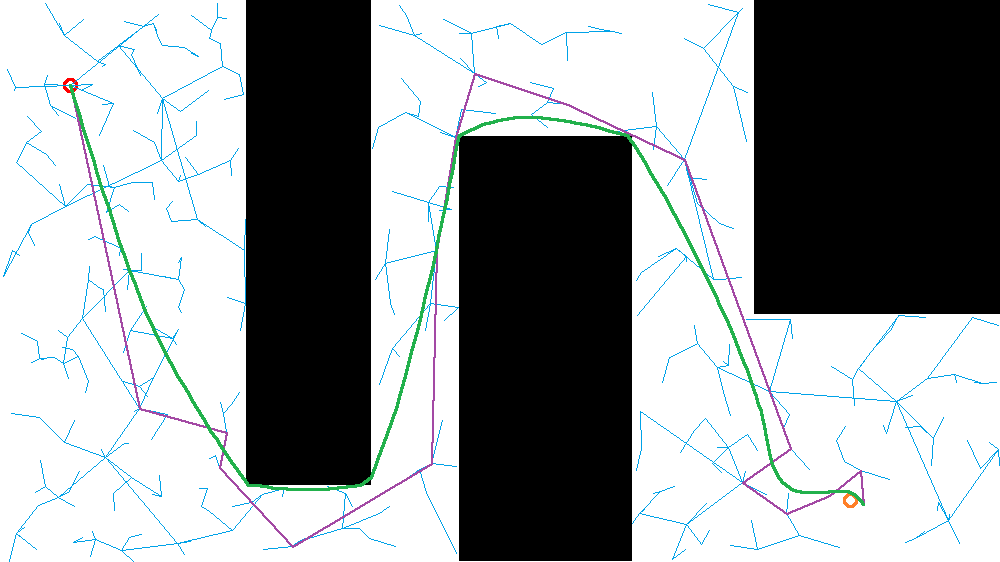
Epsilon =1000 ,Max Search Tims =500 Epsilon =2000 ,Max Search Tims =200

Original one smooth

Overly smooth smooth with obstacle avoidance

### RRT with Vehicle Dynamic Model Simulation

Vehicle Attribute(Based on Tesla Model S)

Mass=2000; // Kg

Friction=0.05; // Dry concrete road

Resistance=0.05; // Neglect the wind resistance

MaxSpeed= 58; // 130mph,208 km/h

MaxForce= 9793; //

MaxPowerOutput=568000;

Length=4.5; // 4.5m

Width=1.9; // 1.9m

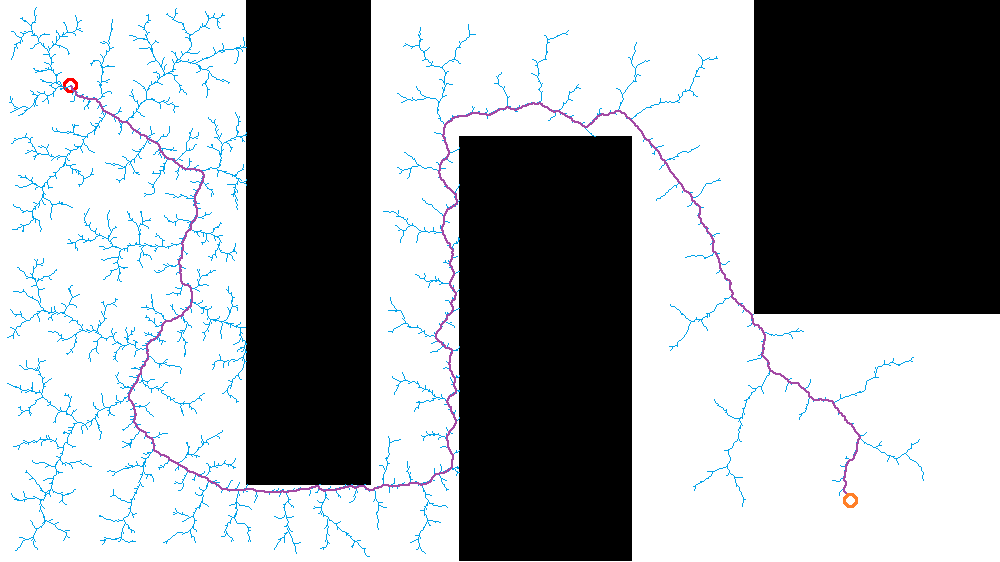
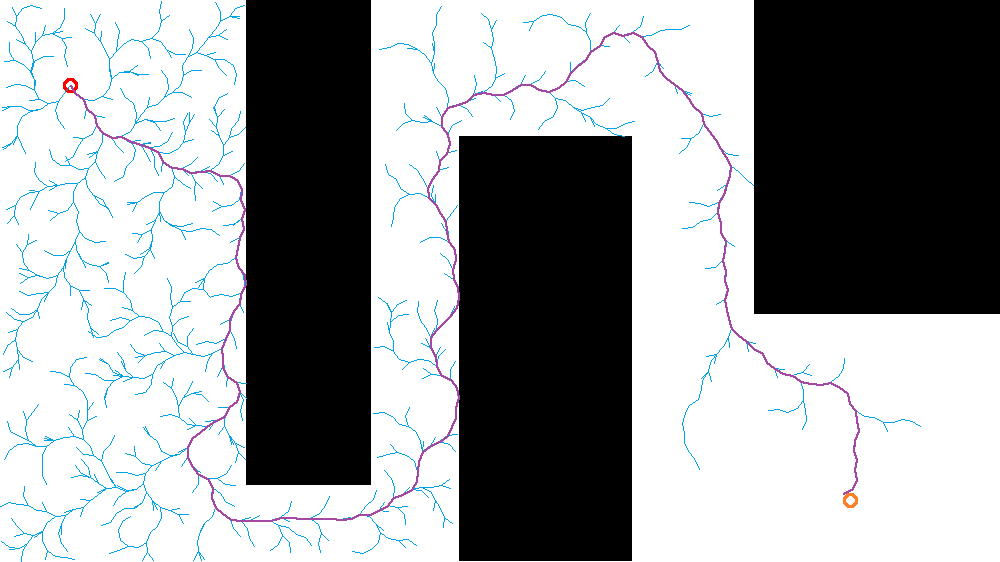
TireCoefFront=1.5E5; // 0.25 N/N/degree

TireCoefRear =4E4; // 0.25 N/N/degree

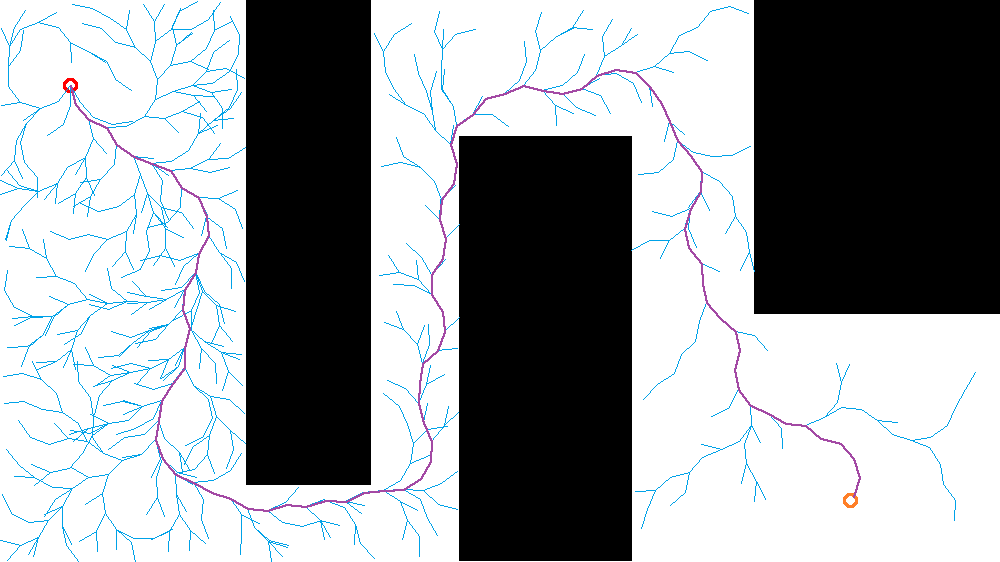
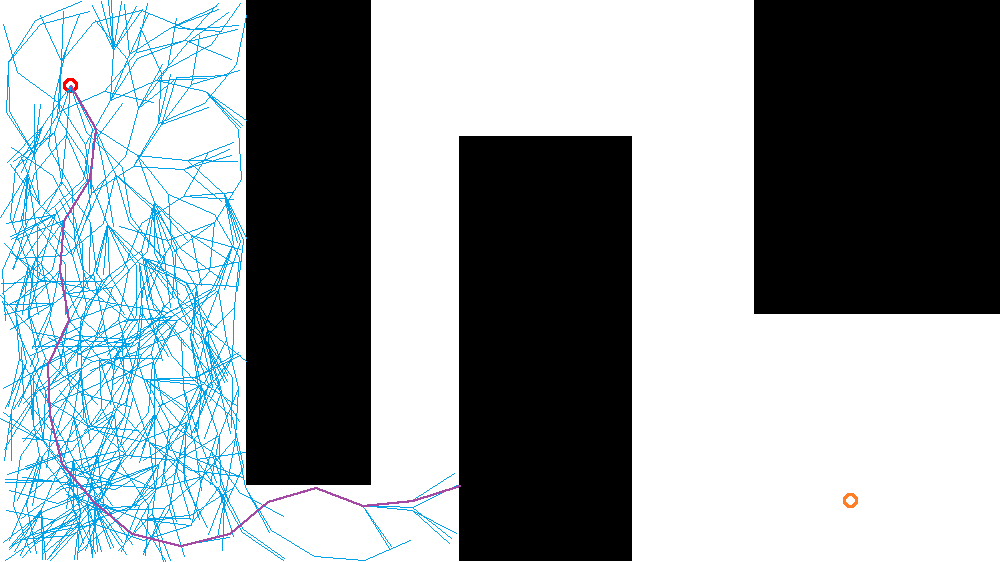
Inertia= 1/12.0\*Car::getMass()\*(Length\*Length+Width\*Width);

TireRadius= 0.35; //0.35m

Speed=1m/s,period=0.2s,Scale=22,trials=5000 Speed=4m/s,period=0.1s,Scale=100,trials=5000

Speed=8m/s,period=0.1s,Scale=200,trials=5000 Speed=4m/s,period=0.1s,Scale=500,trials=5000

Speed=8m/s,period=0.05s,Scale=200,trials=5000 Speed=4m/s,period=0.05s,Scale=300,trials=5000

