Plan:

Break up curve into a bunch of constant curvature parts
Calculate max velocity for each of them

2 situations:

1. High to low
    a. Need to decelerate on HIGH
    b. If your first curve is 30 mph, and your 2nd is 15 mph, you need to declerate on 30 mph(HIGH) before you get to 15 mph(LOW)
2. Low to high
    a. Need to accelerate on HIGH
    b. If your first curve is 15 mph, and your 2nd is 30 mph, you need to accelerate on 30 mph(HIGH) after you finished 15 mph(LOW)

Limitations:

1. Braking/acceleration time
    a. Solution:
        i. Break curve up into a bunch of different parts with relatively constant curvature(difference of ~0.2)
        ii. Take the smallest curvature and calculate velocity
        iii. Size of the individual curve piece is large enough for you to accelerate and decelerate at any speed you need

RL agent will learn to brake and accelerate within possible limitations

Pros:

1. Should be very fast in learning
2. Will converge to a close to optimal solution
    a. Depends on how big each individual curve piece, we can tune that parameter or write another model to train that