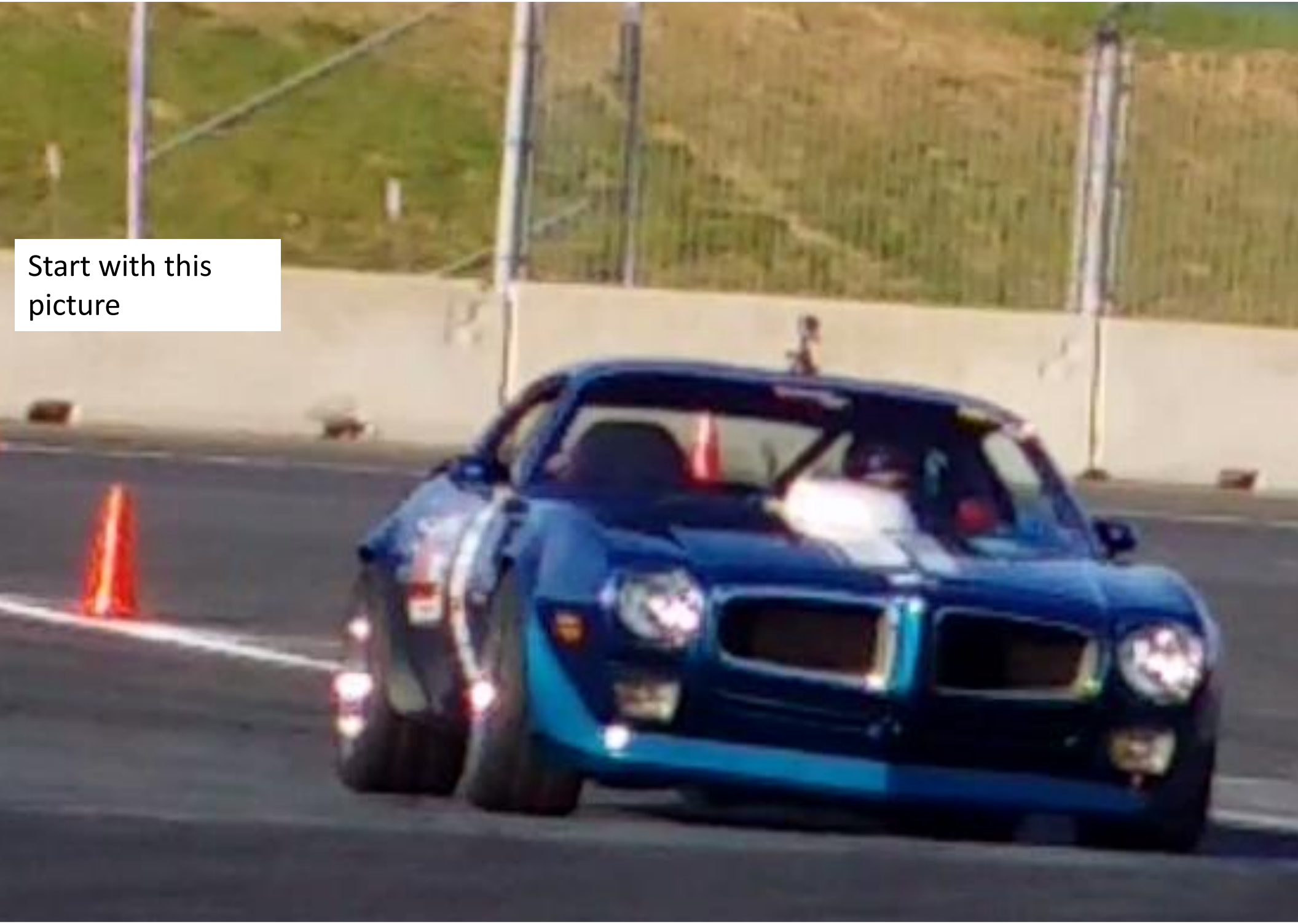
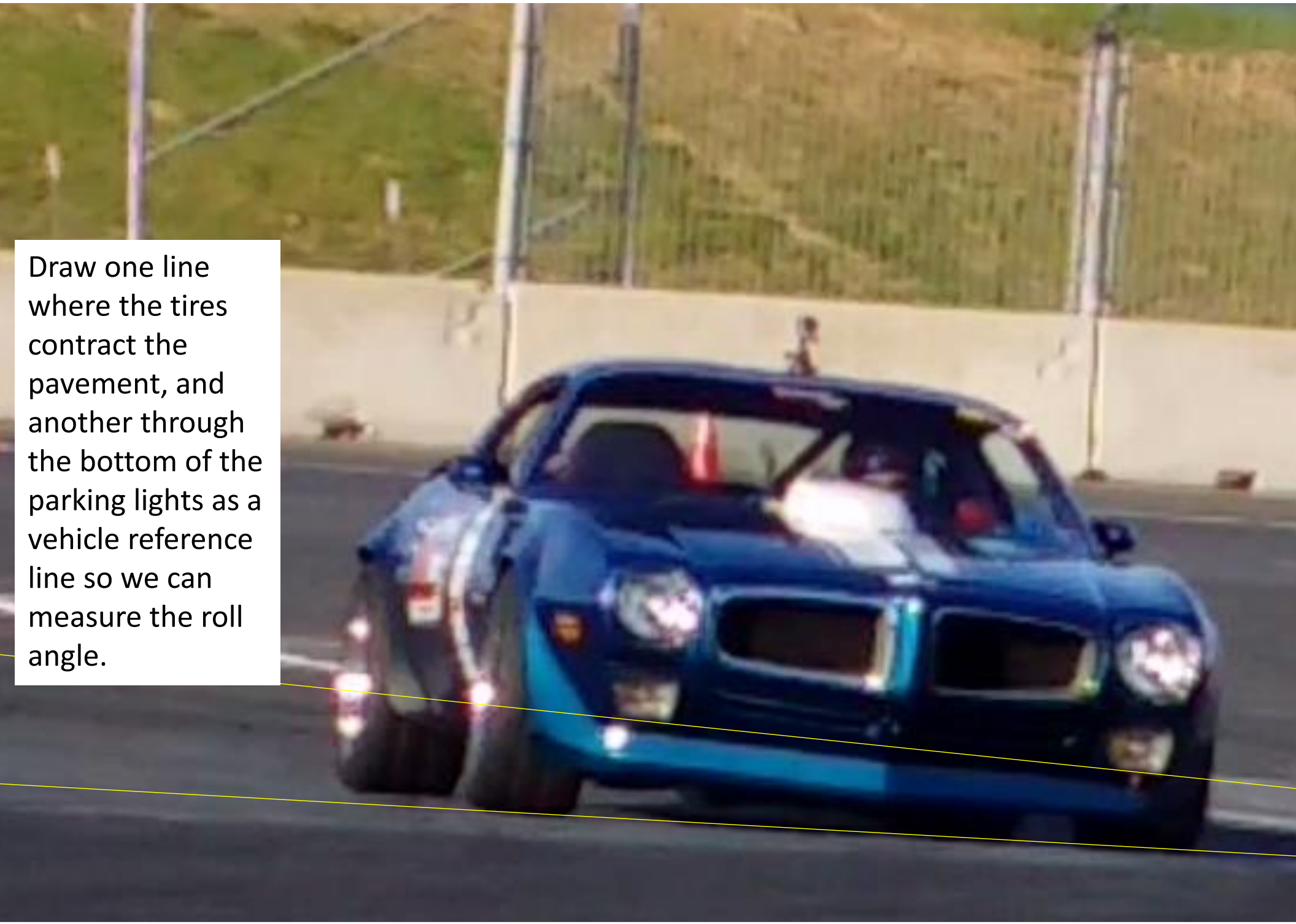
Questions and comments

- Does the car feel like it understeers when you are holding constant speed throttle? This picture isn't the final answer, but it tends to indicate the car understeers. The fix would be a bigger front sway bar.
- Are there jounce bumpers in the front?
  - Either between the frame and the lower control arm, or on the shock bayonet. These act like a variable rate spring under hard compression. Different rates (hardness, if they are rubber) can allow one to adjust the spring rate near the limit of compression.
- What spindle are you using? Is there a drawing available? I am particularly interested in the height versus a stock spindle. I am guessing you are using stock mounting points on the frame for both upper and lower.
  - It looks like from the picture like the spindle doesn't have enough negative camber gain under compression. This is confirmed by the fact you can use -3 ½ degrees camber and not wear the inside edges of the tire.
- 2.85 degrees of roll is in the range, but stickier tires will increase it. If the tires increase the lateral by 10% (1.0 to 1.1 G), then you will be ~3 degrees. My tentative conclusion is you will eventually need bigger bars front and rear, however, lowering the front (assuming there is a fix for the header clearance) may lower the roll since it will lower the center of gravity a bit.


Start with this picture

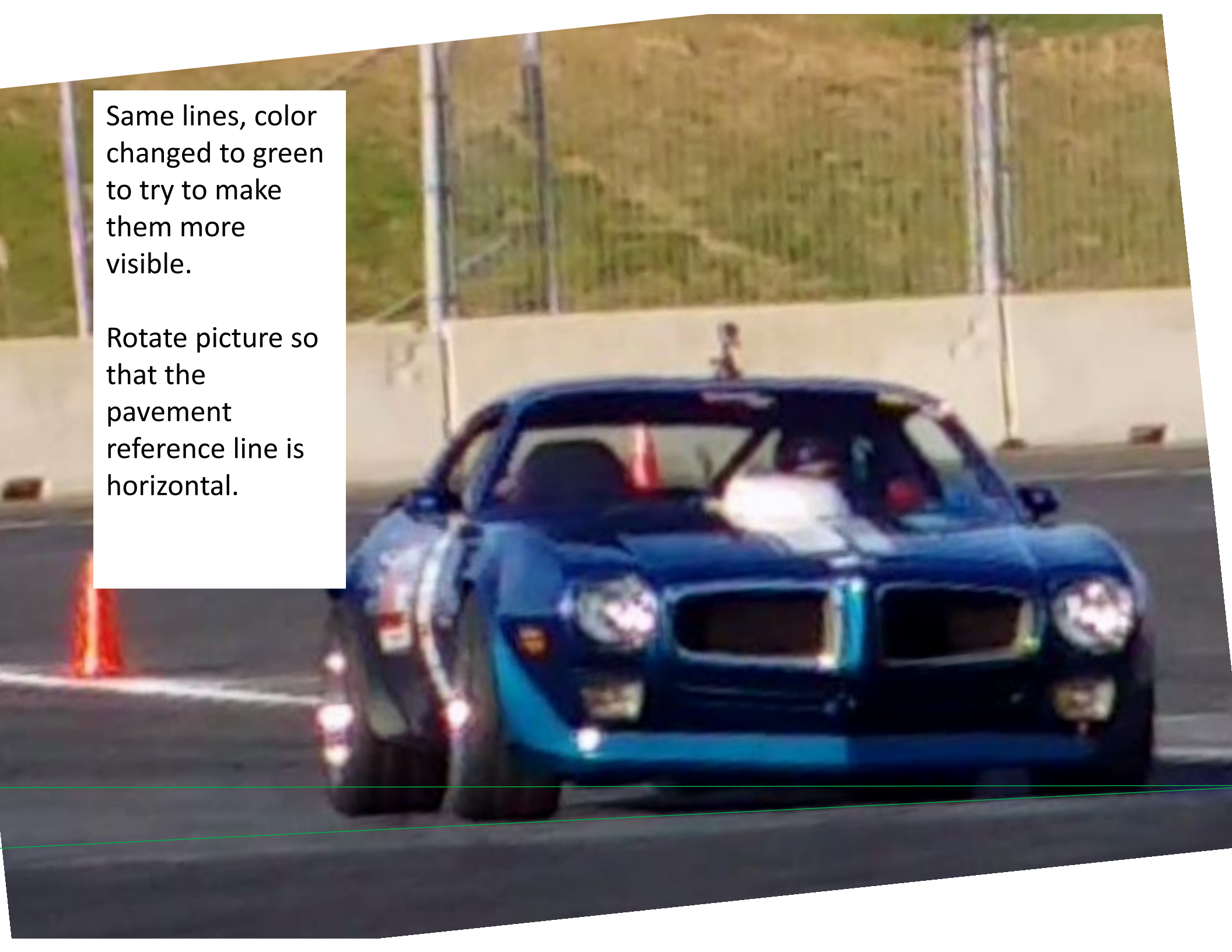

Draw one line where the tires contract the pavement, and another through the bottom of the parking lights as a vehicle reference line so we can measure the roll angle.

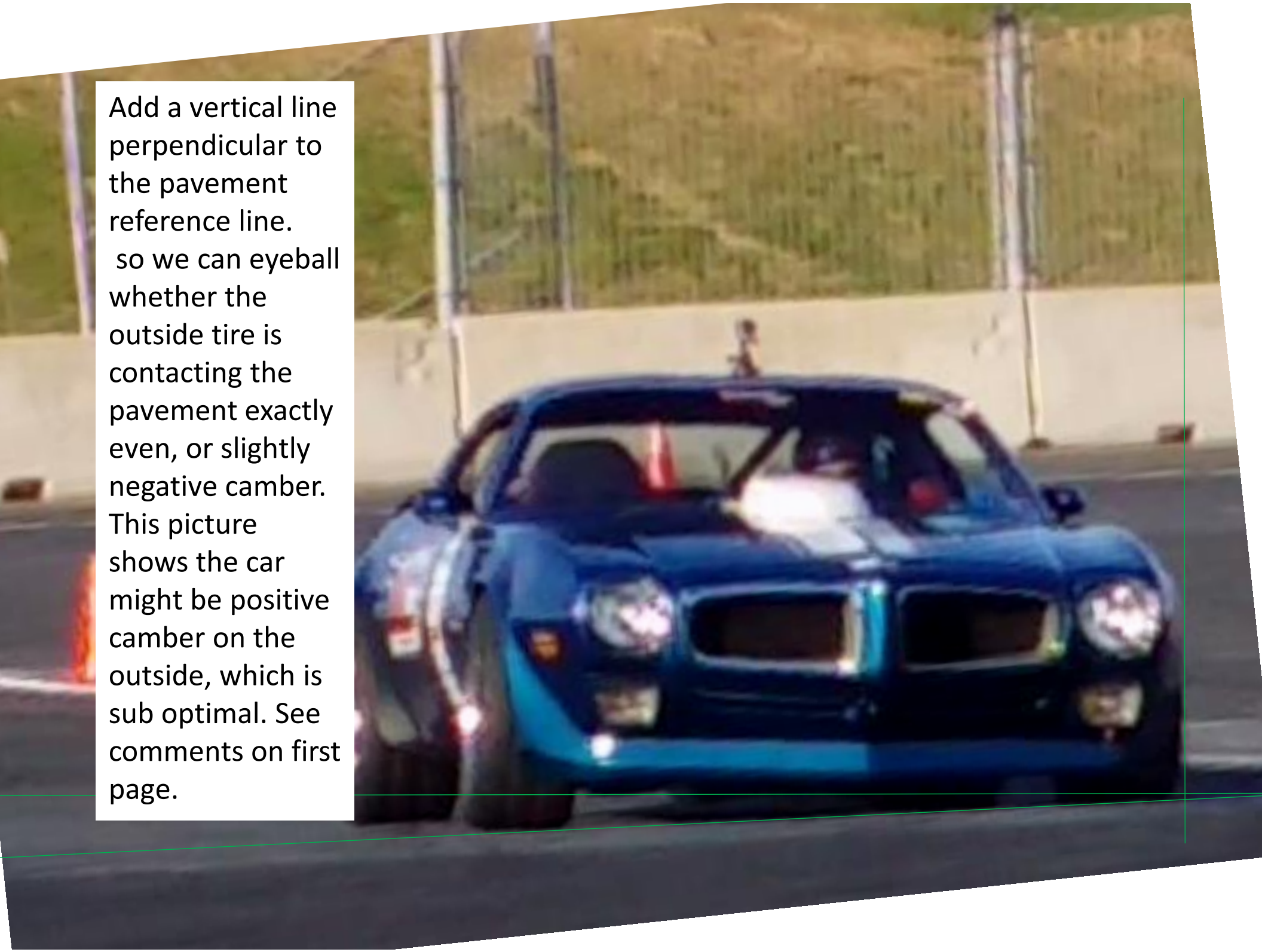

Next slide the vehicle reference line down to make it easier to measure the arctangent

sliding the lines around
out changing the relative
, I measured the horizontal
0” and the gap at
Thes two dimensions give
e arctangent
pposite divided by the
ent). Thus an arctangent of
2.86 degrees roll (using the
ngent calculation function)

What else can we learn from the picture?

Outside tire looks like it has too much load on outside of tire, meaning the spindle does not have enough camber gain. A taller spindle would be better.


Same lines, color changed to green to try to make them more visible.
Rotate picture so that the pavement reference line is horizontal.


Add a vertical line perpendicular to the pavement reference line.
so we can eyeball whether the outside tire is contacting the pavement exactly even, or slightly negative camber. This picture shows the car might be positive camber on the outside, which is sub optimal. See comments on first page.