

Disclaimer

The techniques shown here have been compiled from experienced sources believed to be reliable and to represent the best current opinions on driving on track. But they are advisory only. Driving at speed at Lime Rock, or any other track, requires skill, judgment and experience. These techniques assume the reader has high performance driving knowledge and applies them as applicable to their level of driving experience.

High-performance driving can be very dangerous, carries inherent risks and may result in injury or death. NNJR and PCA make no warranty, guarantee or representations as to the absolute correctness or sufficiency of any representation contained herein. Nor can it be assumed that all acceptable safety measures are contained herein or that other or additional measures may not be required under particular or exceptional conditions or circumstances.

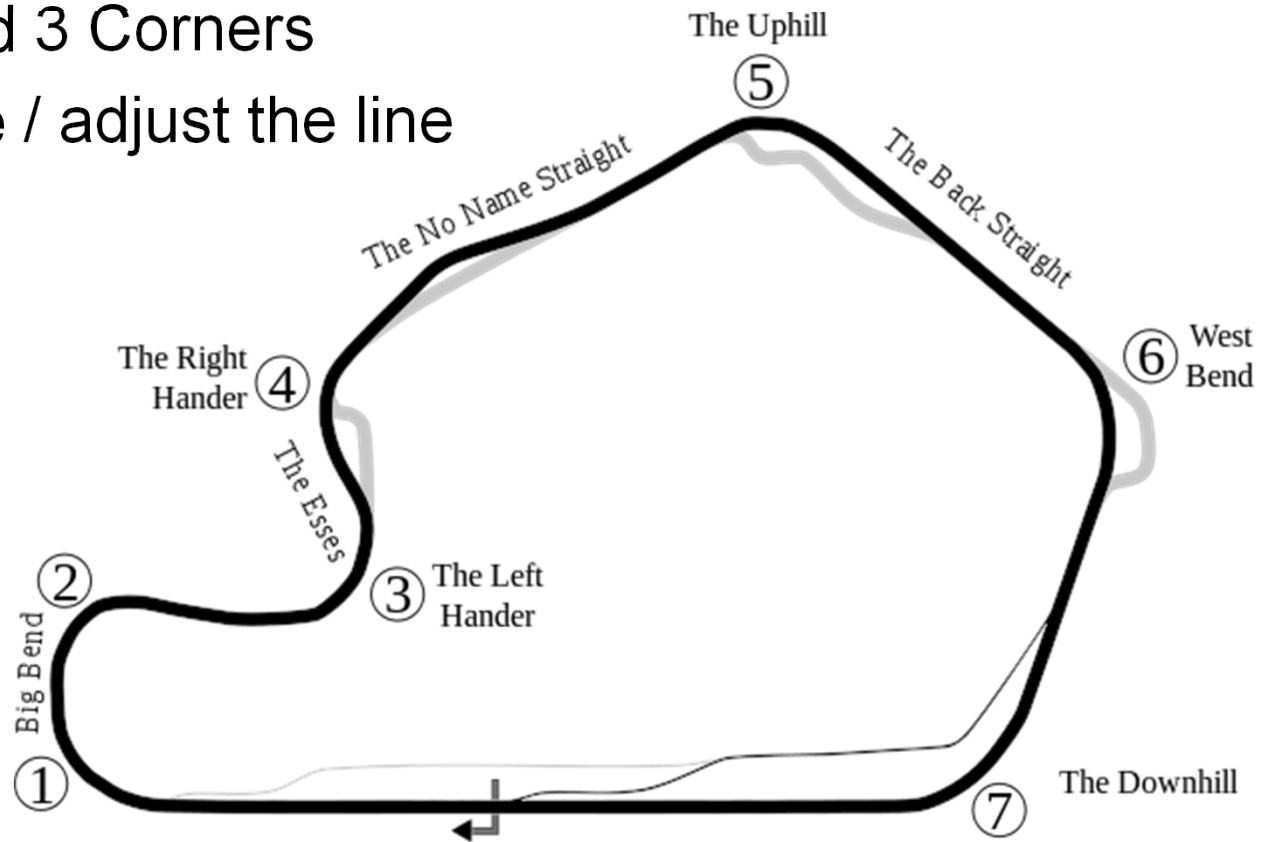
Trackside Classroom

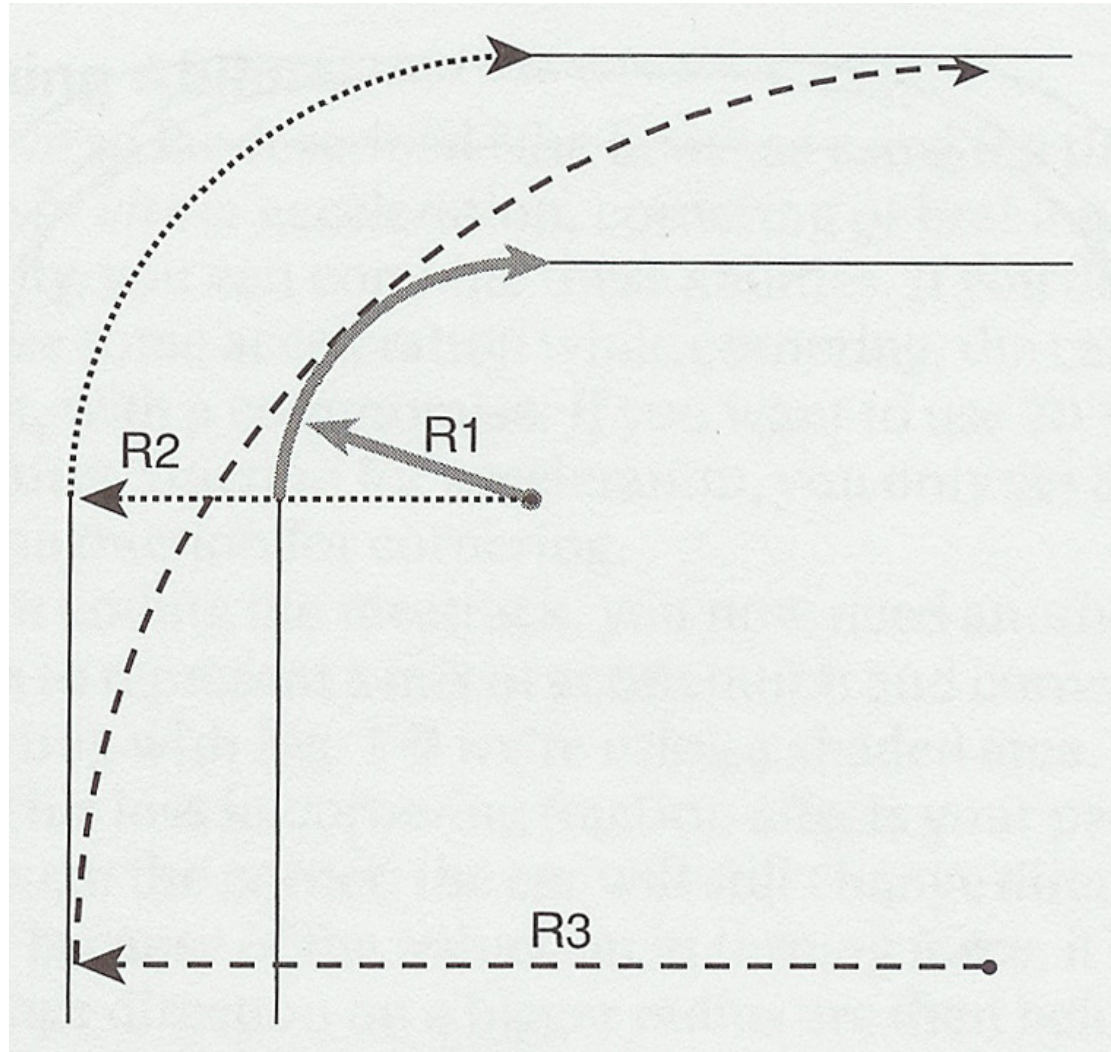
Why Drive This Line?



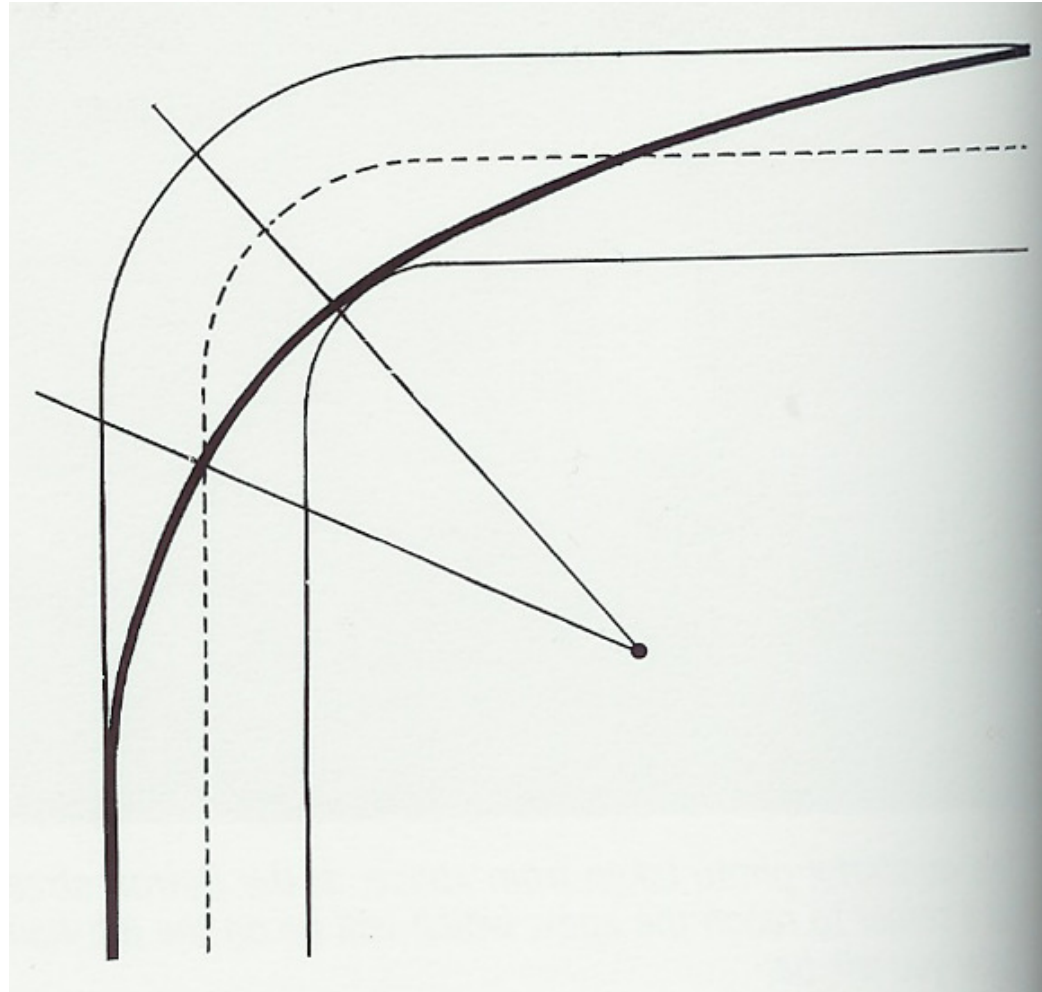
- The Line
 - Classic Late Apex
 - Type 1, 2 and 3 Corners
 - How to refine / adjust the line

- Lime Rock





* David Murry

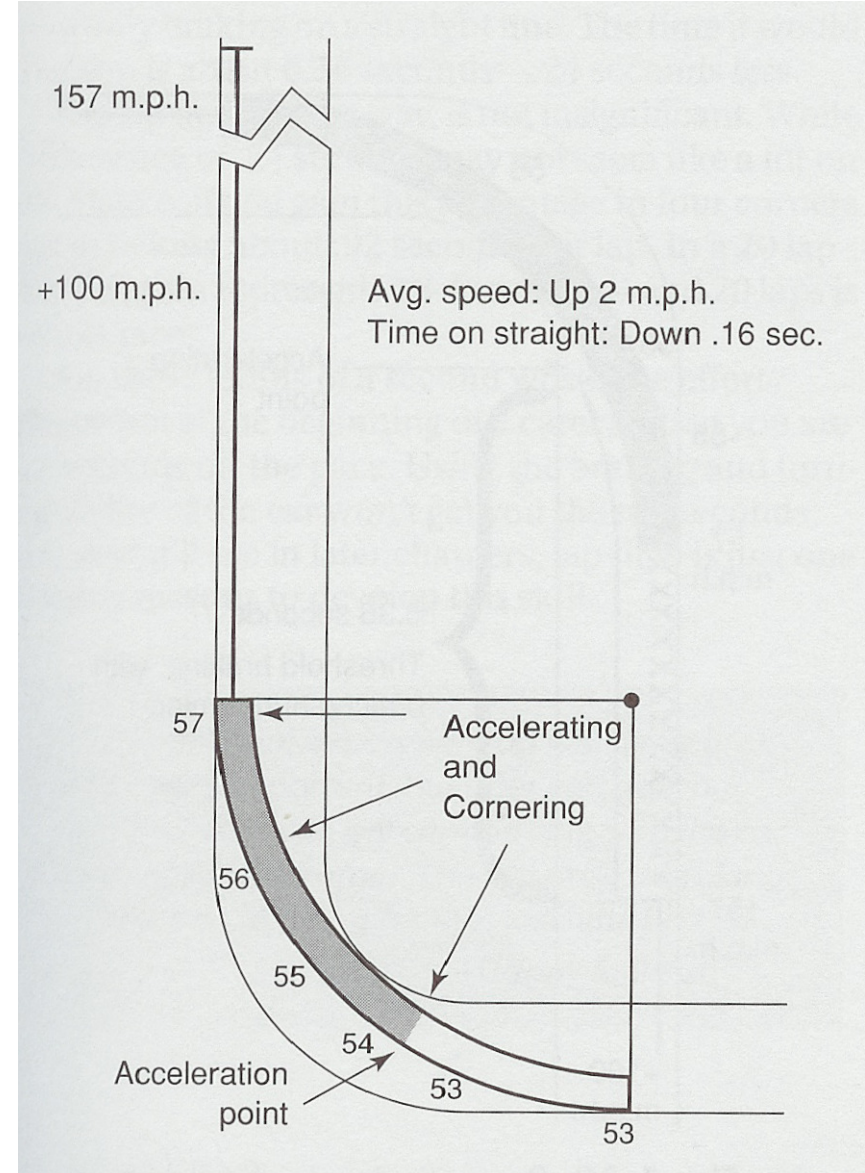
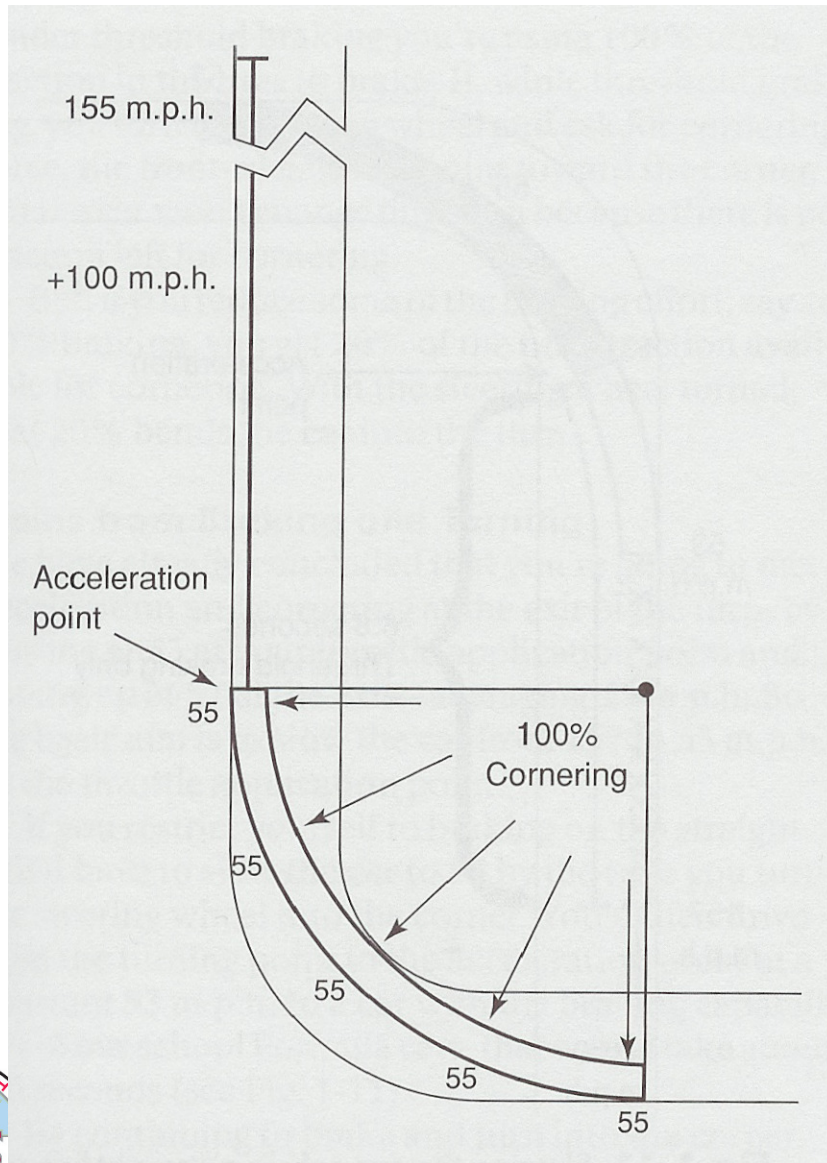


- Maximum Cornering Highlighted

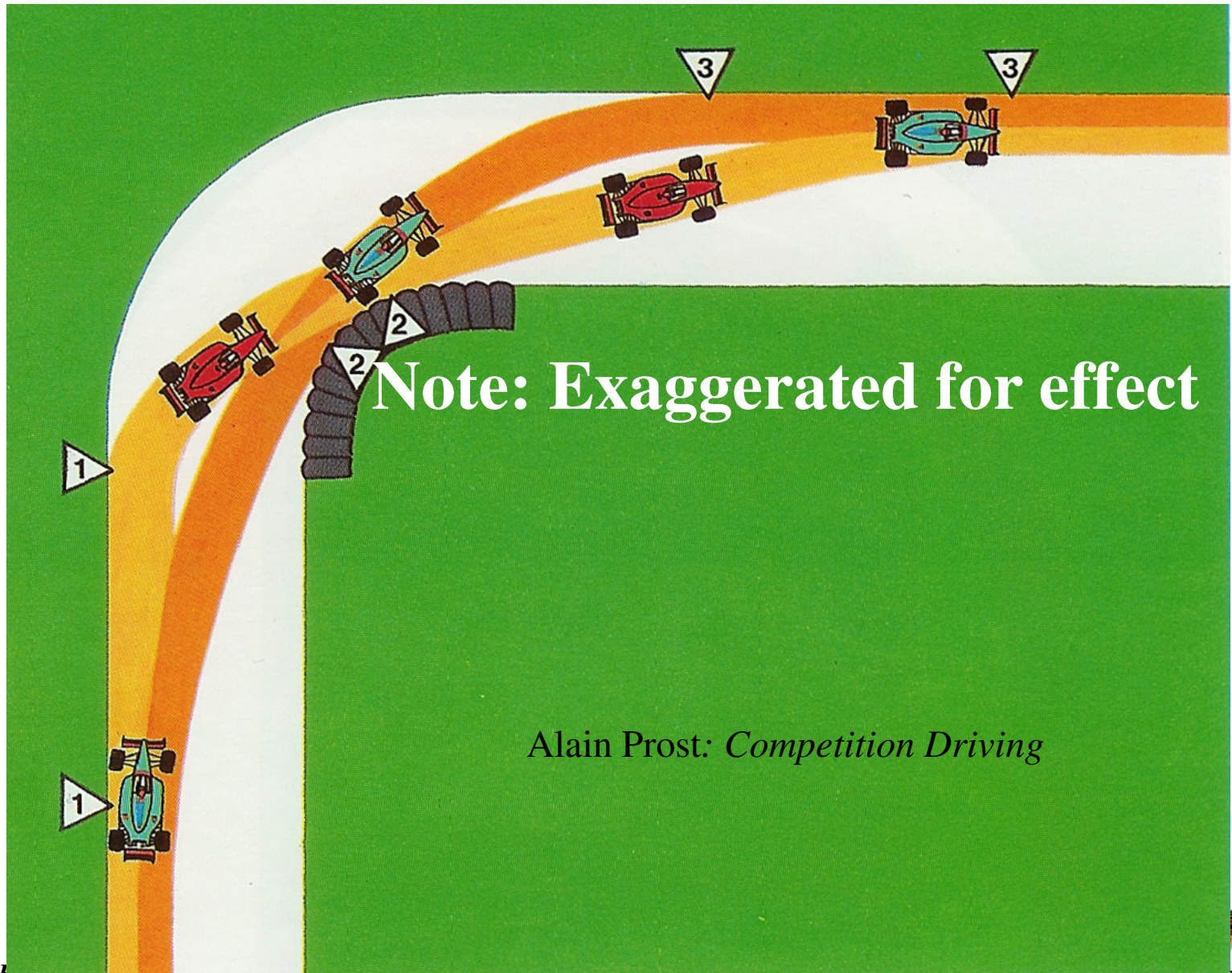
Aryton Senna: *Principles of Race Driving*



Why a Late Apex Line? It's All About the Exit Speed



NNJR Another Late Apex View



Note: Exaggerated for effect

Alain Prost: *Competition Driving*



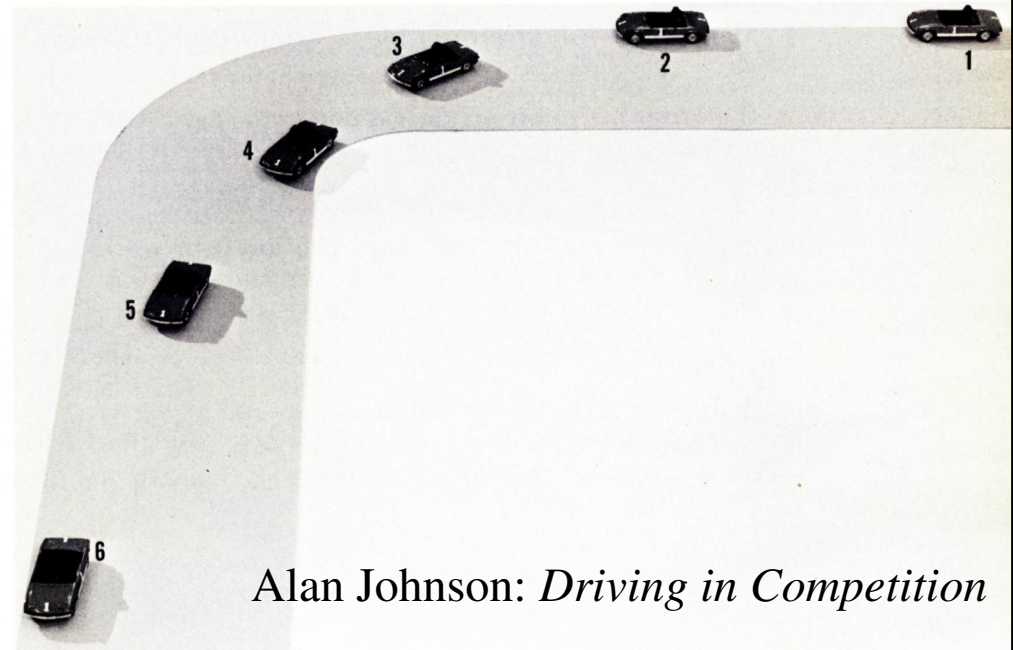
NNJR Types of Corners



- Type I, II, III
 - Type I = Most Important; leads onto straight
 - Type II = Next; ends a straight, no straight after
 - Type III = Least; between corners
- Fast vs. slow
- Long vs. short

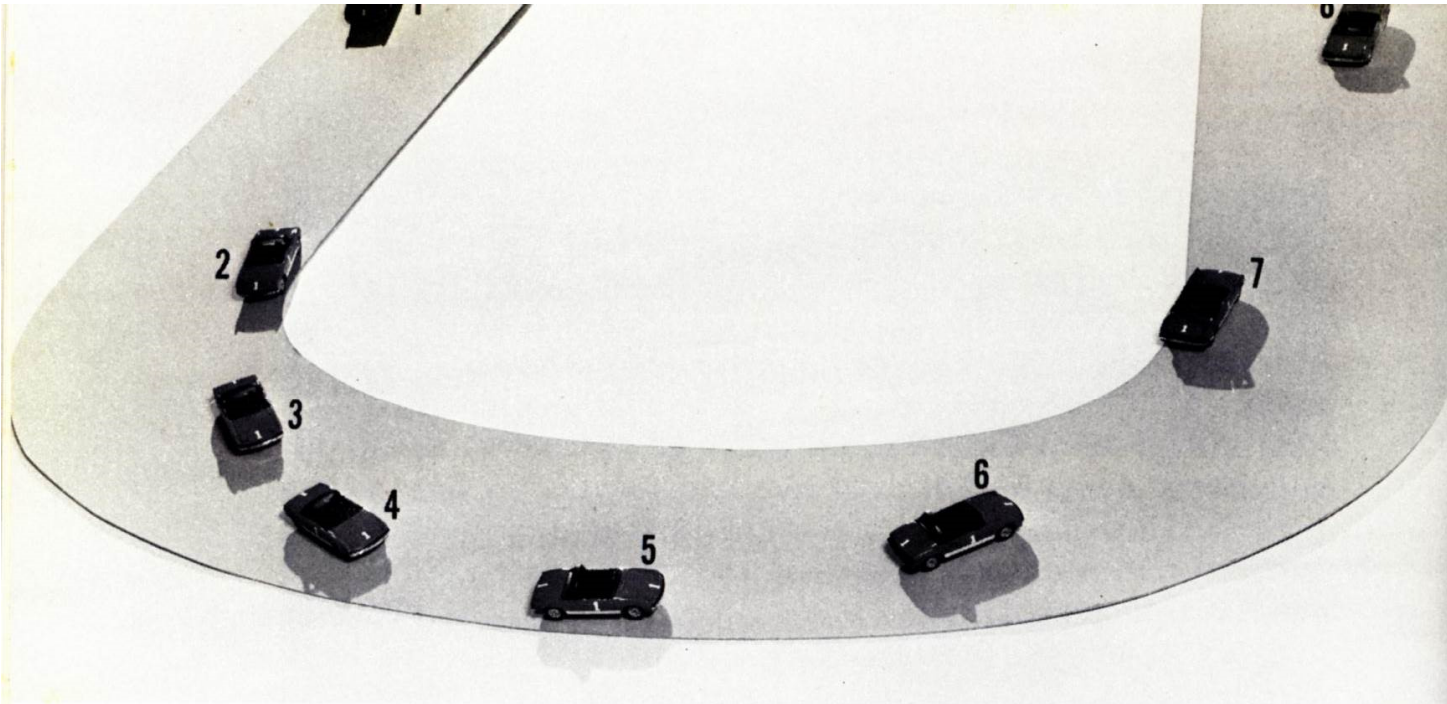
Type I Turn. A Type I turn is one that leads onto a straightaway. In this type of turn you brake early, get on the throttle just as early as possible, make a late apex and accelerate onto the following straight at maximum rate of speed. In the illustration below, it is put together like this:

1. Maximum braking.
2. Braking almost complete, downshifted to lowest gear that will be used in accelerating out of turn.
3. Balancing point. Transition from braking to accelerating. This is a critical point. If you accelerate too early, you will have to let off to keep from running out of road on exit from turn. If you wait too long to begin acceleration, you will not be able to make entrance onto straight at maximum speed.
4. Late apex. Should be at or very nearly at full throttle.
5. Full throttle, accelerating at maximum rate.
6. Full throttle, clear of turn, using all of the road to make a smooth arc on to straightaway.



Alan Johnson: *Driving in Competition*



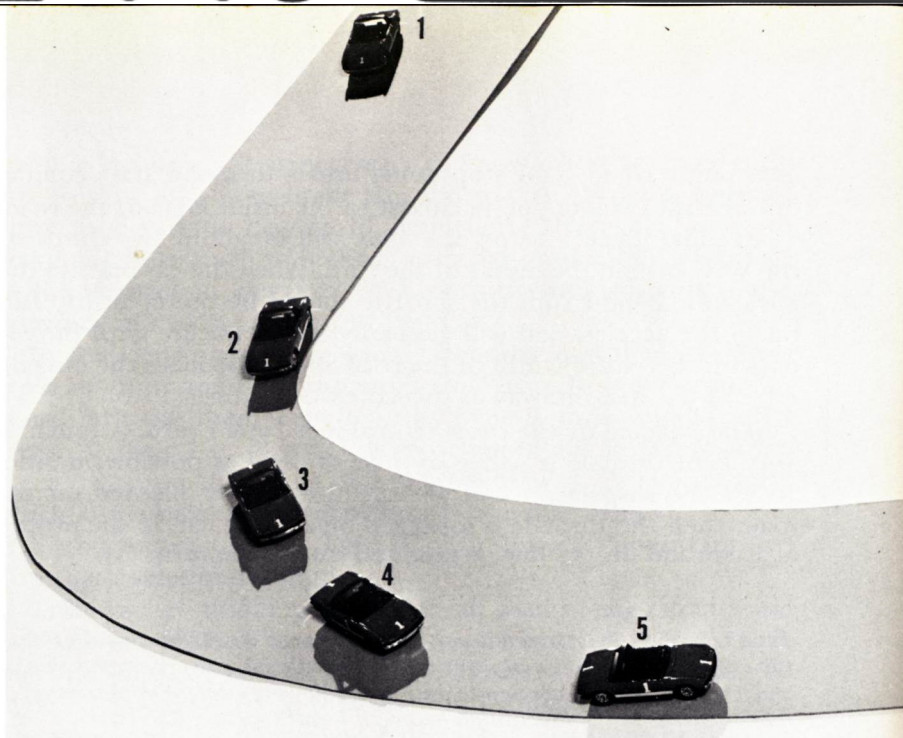


Compound turn that is a typical example of a Type II turn that leads to a Type I turn. Here you brake late coming into the Type II turn, then balance car and get set early for maximum-speed acceleration on to straight that follows.

1. Delay braking just as late as possible.
2. Early apex.
3. Lighter braking as car begins to turn.
4. Balancing point. Transition to light throttle to "set" car.
5. Apply enough throttle to set up for exit.
6. Acceleration.
7. Late apex. Now under full throttle.
8. Exit turn, using all of road onto straightaway at maximum rate of acceleration.

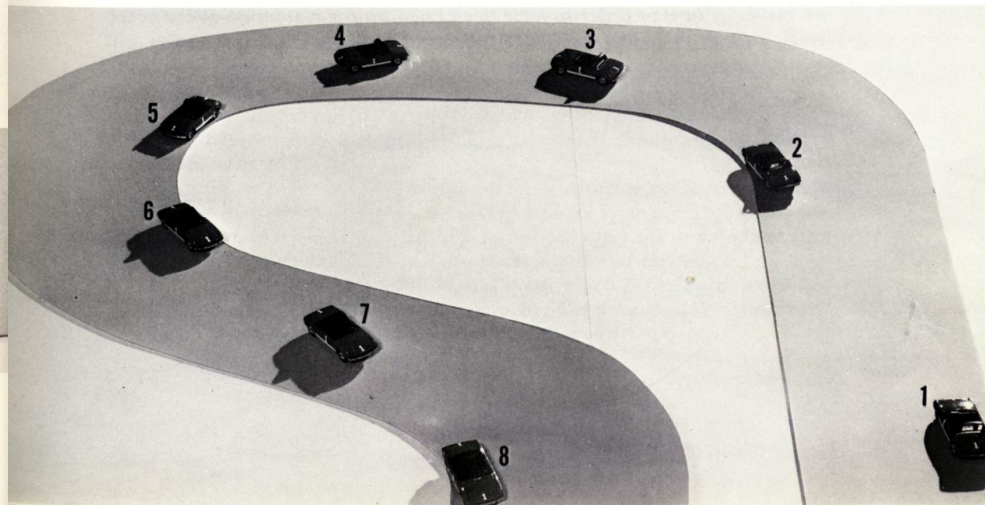
Big Bend!

Alan Johnson: *Driving in Competition*



Compound turn with examples of Type II (coming off straight), Type III (turn between turns) and Type I (leading onto straight) turns.

1. Delay braking just as late as possible.
2. Early apex, slightly less braking as car begins to turn.
3. Balancing point, using very slight amount of throttle to "set" car.
4. Hold light throttle, follow smooth radius, not trying to go too fast.
5. Still light throttle, being especially careful to stay to inside of course and not increase acceleration too soon as this will carry you to outside of course and spoil exit.
6. Balancing point. Car should be lined up for exit and beginning to accelerate.
7. Hard acceleration, very nearly full throttle.
8. Late apex, full throttle, enter straight at maximum acceleration and use all of road getting onto straight at fastest possible speed.

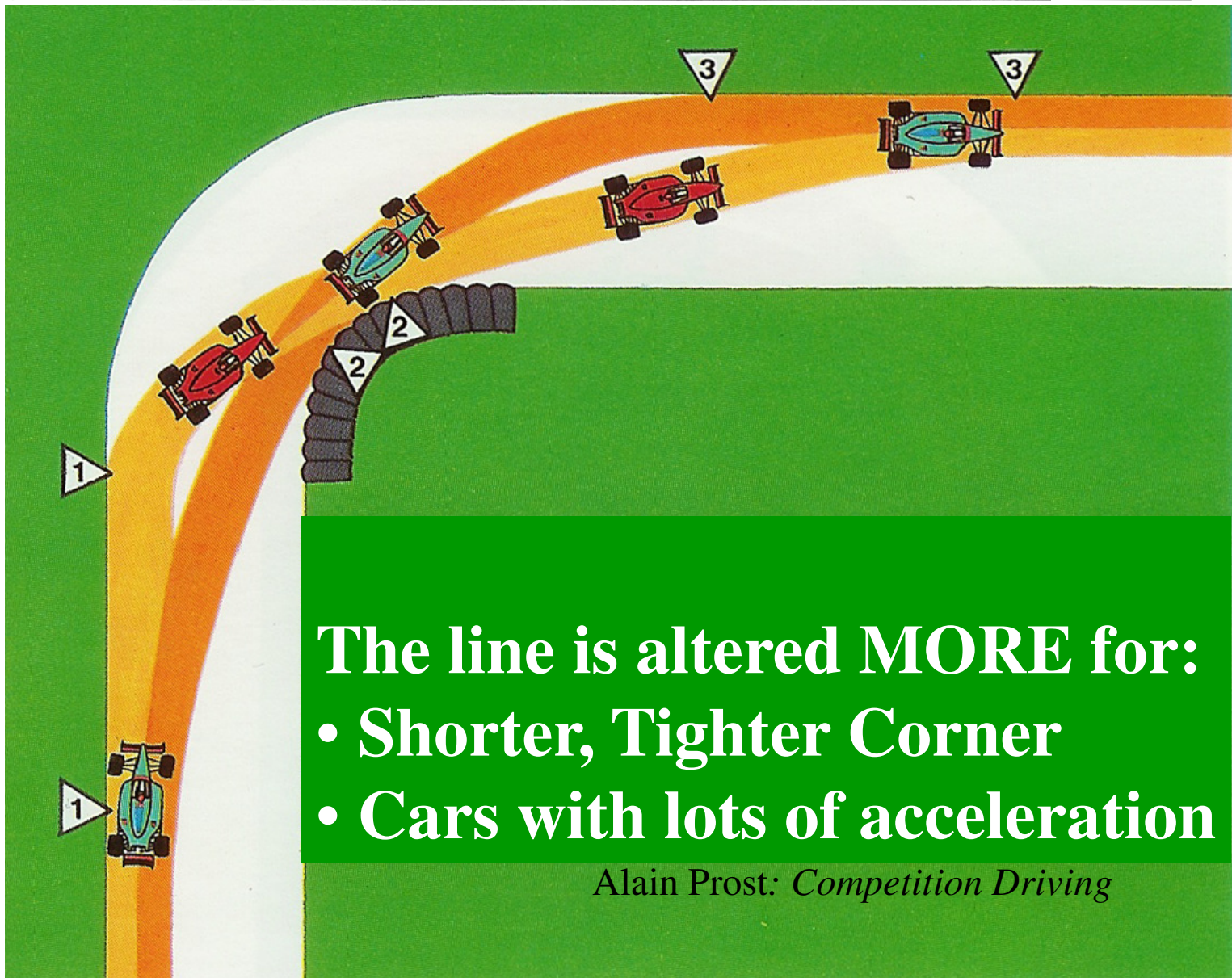


Type II Turn. A Type II turn is one that comes at the end of a straightaway. In order to get maximum benefit from straightaway speed, brake as late as possible, take an early apex, continue braking into turn and position the car for whatever comes next on the course.

1. Delay braking just as late as possible, using fixed reference point to begin braking.
2. Early apex, braking slightly less in this area as you begin to steer the car into the turn.
3. Lighter braking (and possibly sliding) as you widen the radius of the turn.
4. Balancing point. Transition to very light throttle to "set" car on suspension.
5. Sufficient throttle to properly line up for next portion of the course.

Could be Turns 4 and 5!

NNJR Adjustments

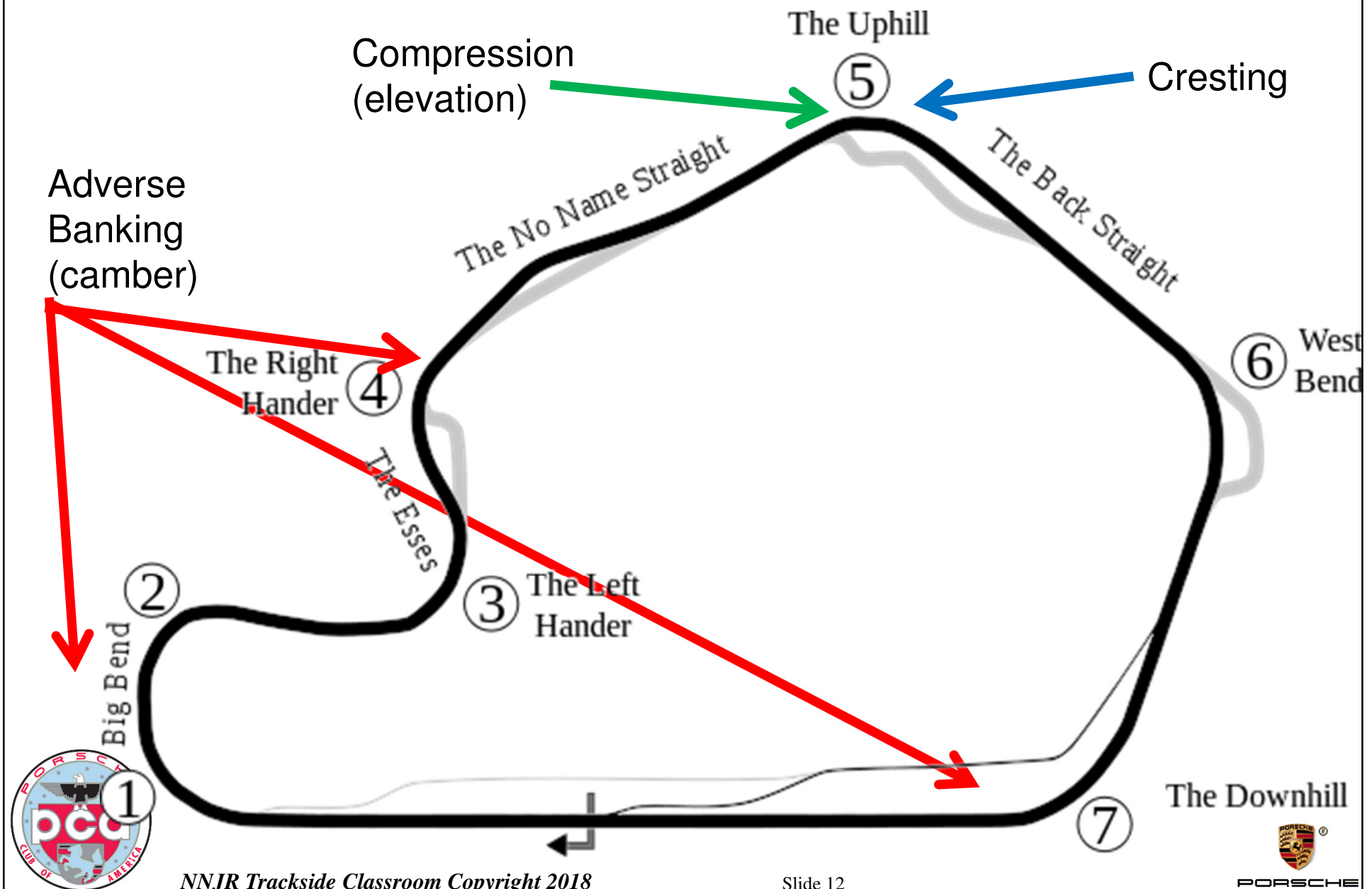


The line is altered **MORE** for:

- Shorter, Tighter Corner
- Cars with lots of acceleration

Alain Prost: *Competition Driving*





NNJR Summary



- Approach “the line” as a learning challenge
 - Why this apex? Turn in?
- Priorities
 1. Corner exit (index)
 2. Corner entry
 3. Mid corner transitions
 4. Braking
- Make adjustments and observe their effect
- Keep it safe!
 - Emphasize learning, not speed



NNJR Questions

