

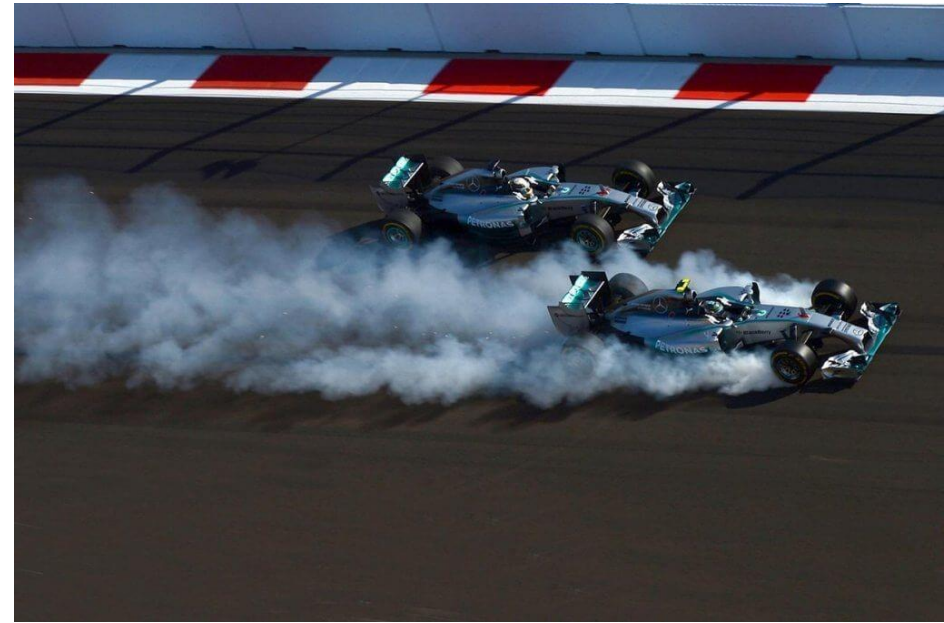
Trackside Classroom

Trail Braking

Mario Andretti: “Its amazing how many drivers, even at the F1 level, think the brakes are for slowing the car down.”



- The Learning Sequence
- Corner Entry
- Trail Braking
 - VIR examples
- Summary
- VIR Questions & Turn by Turn



“High performance driving is all about the correct timing, application of pressure, and release of the brakes.”

-- Ross Bentley

NNJR “Health Warning”



- Some of these are ***not*** beginner techniques
- They may or may not work for ***you***
 - Application will take thought and practice
- Safety is the first part of “Safe, Serious Fun”
 - Only apply techniques that are “comfortable”



NNJR “The Learning Sequence”



1. The line
 - i.e. the right one for you and your car
2. “Corner exit car control”
 - Maximize exit speed—and safety
 - “Throttle Application Point”
3. Braking and entering the turn
 - Smooth transition from straight to throttle application point



NNJR Corner Entry



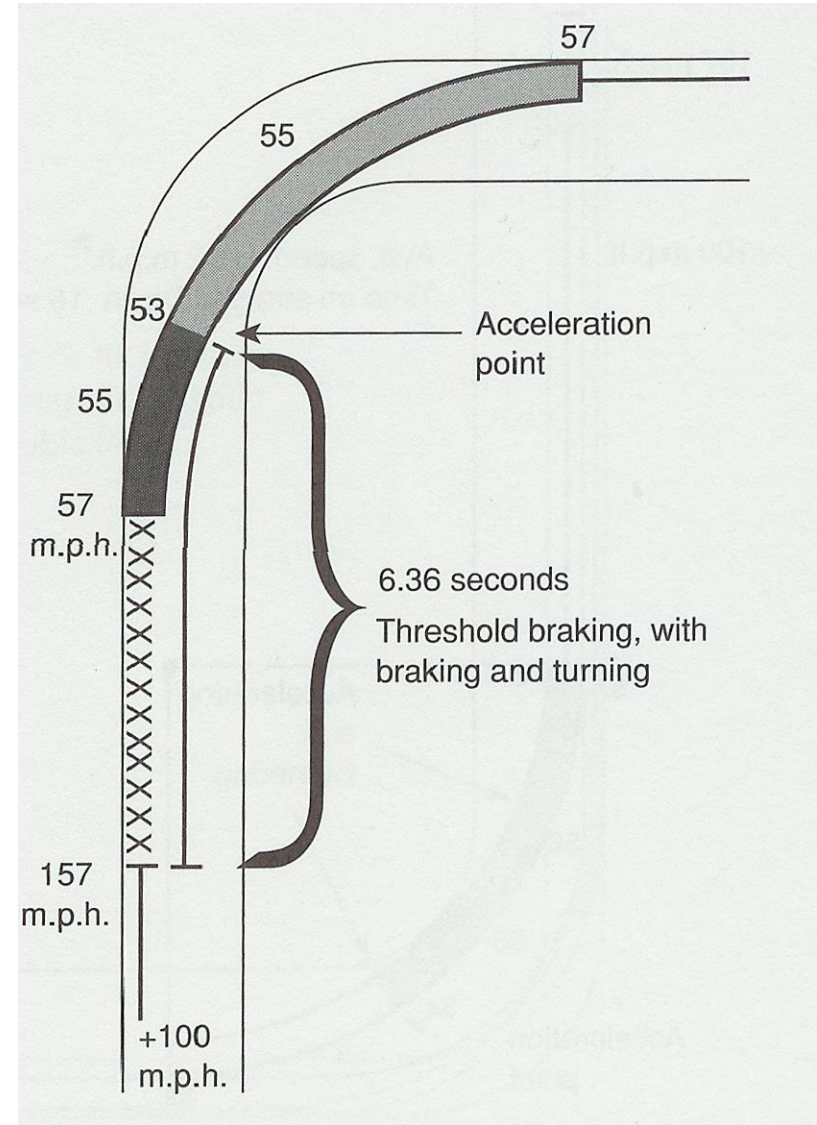
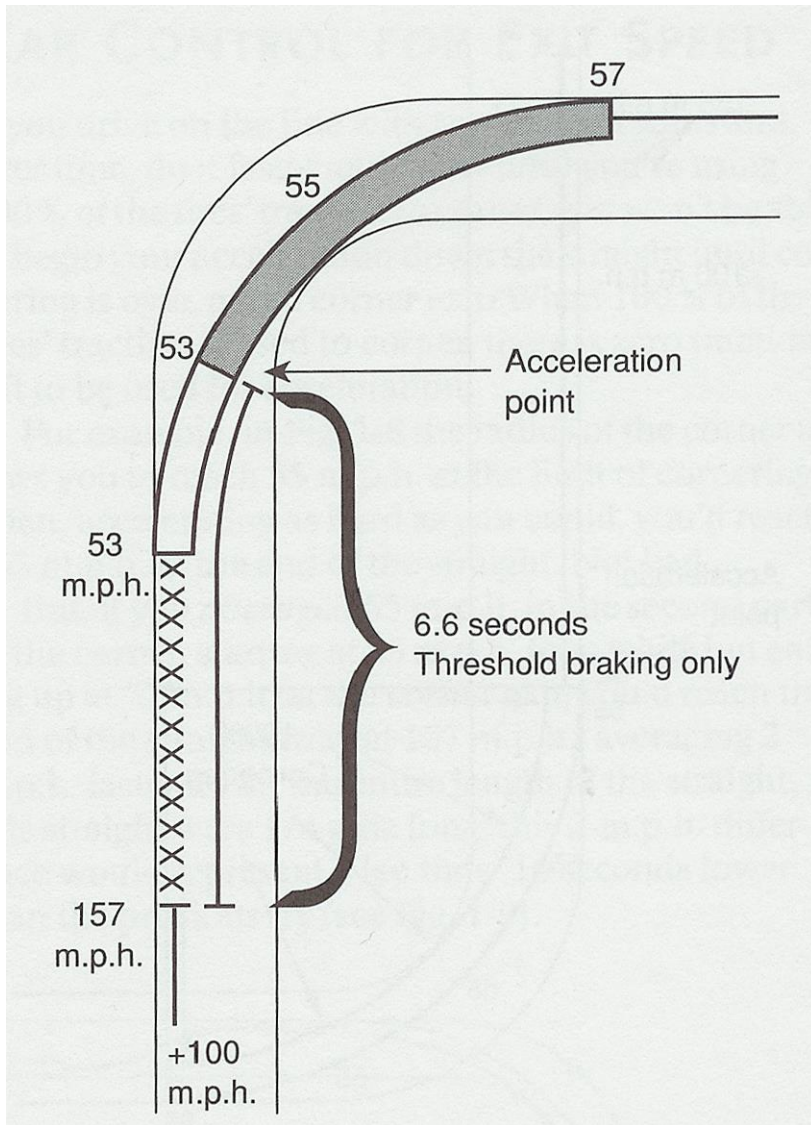
1. Throttle to Brake transition
2. Straight line deceleration
3. Trail Braking (braking while cornering)
 - Most corners
4. Brake to Throttle transition

“I spend more time coaching drivers on their brake release than anything else.”

--Ross Bentley



NNJR Braking / Trail Braking



NNJR Trail Braking: the Hard Part



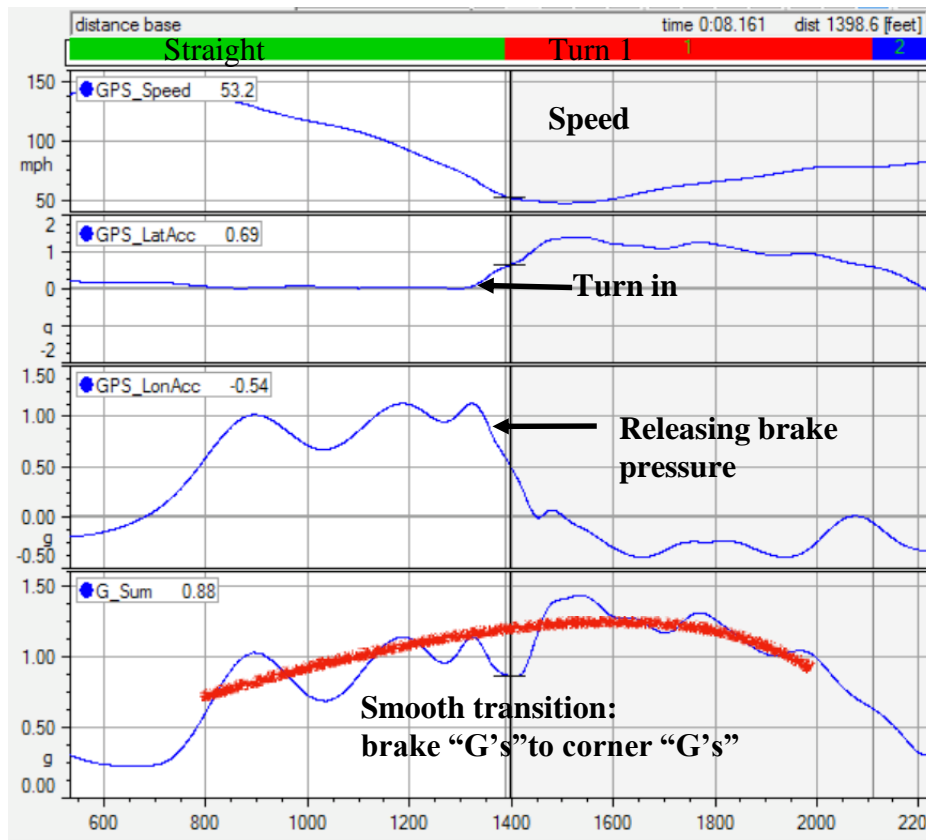
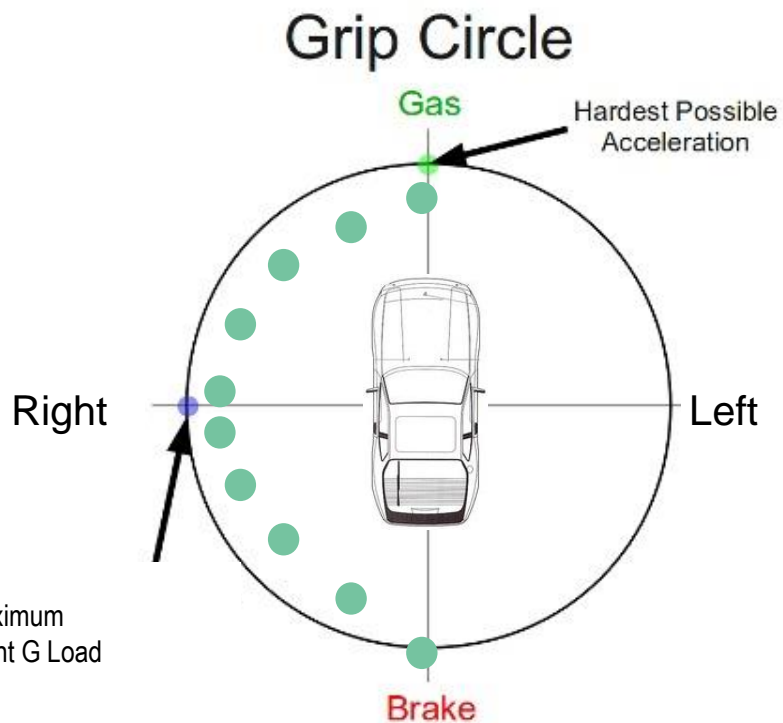
- When/how much to trail brake?
 - **Some corners a lot, others little or none**
 - Longer corner
 - Big speed change
 - Slower corner immediately after
 - Long time to transition before Throttle Application Point
 - **If your car can make the transition**
 - **If you can handle the transition**

“A string connects the brake pedal and the steering wheel.”



- Turn 1
 - Classic Trail Braking Corner
 - Long, slow corner
 - Long, slow brake release
- South Bend (Turn 10)
 - Classic “little or no” trail braking Corner
 - Shallow, fast
- Turn 4, Oak Tree, Turn 14
 - Some trail brake, varies by car

- Turn 1 at VIR



NNJR Braking: the Critical Part



- The speed and car placement at the *end of braking* must be the focus
 - Critical for the line and for corner exit
 - Requires a sensitive feel for the right speed: +/- 1-2 mph!
 - Do you have a reference point for end-of-braking?
- Reasons why braking too late is a bad idea
 - “Braking-to-acceleration” transition can adversely affect car balance the most
 - You can easily over-slow the car
 - Your (incoming) speed on the straight can vary
 - You must be at the right speed before the Throttle Application point
 - **Net: much higher probability of missing the line and the corner exit**
- Braking a little earlier and modulating to the correct entry speed gives up very little time—and is MUCH easier



NNJR Trail Braking: Summary



- Focus on End of Braking
- Smooth transition from brake to gas
 - Goal: imperceptible
- You are already trail braking!
 - Learn where to do more
 - Learn where to do less

