Data Nuggets: Tools, Not Tattletales

Why and What Can You Get From Your System

Presented by Krause & Associates LLC www.peterkrause.net

The Importance of Objective Measures

Drivers drive to a comfort level, not necessarily what the car is capable of.

Drivers are capable of isolated "moments of flowing brilliance." Find and focus on doing more of these.

Drivers not only need to improve performance, they need to respect an acceptable risk/benefit ratio.

What drivers "feel" may not be what is actually happening.

Technology Tools as Aids

Technology tools measure performance metrics.

Tools help instructors help their students.

Tools help solo drivers help themselves, also to compare.

Tools, not tattletales!

Not a substitute for an instructor or for common sense.

K.I.S.S. - Keep It Simple, SIMPLE!

We Don't Need Much, But We DO Need Video

Video is rich with visual and auditory information.

"Intelligent" video has performance metrics ON it.

An audit for car position and heading.

Benchmarking for speed and g's.

Lap time is TOO BIG a measure on its own. Hundreds of decisions every lap. Improve the quality of each one.

Data Coaching Basics

Keep it simple, perfect the five to ten minute debrief.

Pick one or two measures or examples, maximum.

Basic Video Review = Line Audit.

Speed versus Distance = "The Money Channel."

Acceleration/Braking versus Distance.

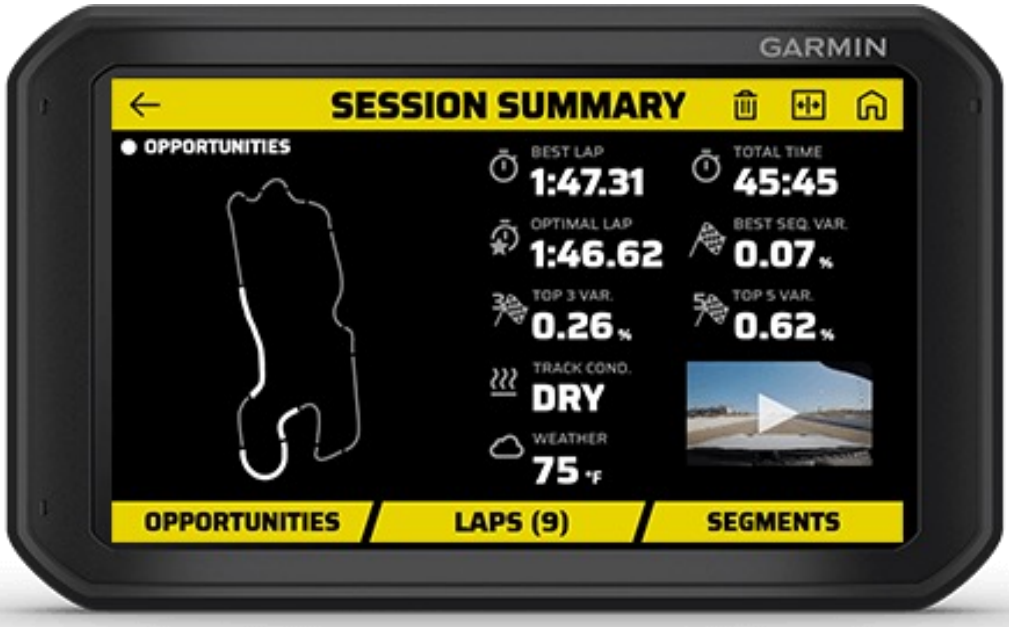
Sector Analysis, if you have time.

Two Simple, Portable Tools

Garmin Catalyst – 7” tablet with separate, small camera high inside windshield, audio coaching, post-session review and three opportunities suggested.

AiM Sports Solo 2 DL/SmartyCam HD Track Kit – Plugs into OBDII port for power and car info, video on full size SD card. With Windows laptop will show basic data.

Garmin Catalyst Overview



Constructs a “high average” and grades against that. Neural network construction.

Offers visual and auditory real-time feedback.

Can be removed from magnetic base for session review.

Offers Summary and Opportunities prioritized.

Constructs Optimal Lap, driver’s BEST performance.

Garmin Catalyst Overview

Finding and focusing on the best execution of fundamental skills.

"Isolated moments of brilliance" make up the optimal (purple) lap performance measures.

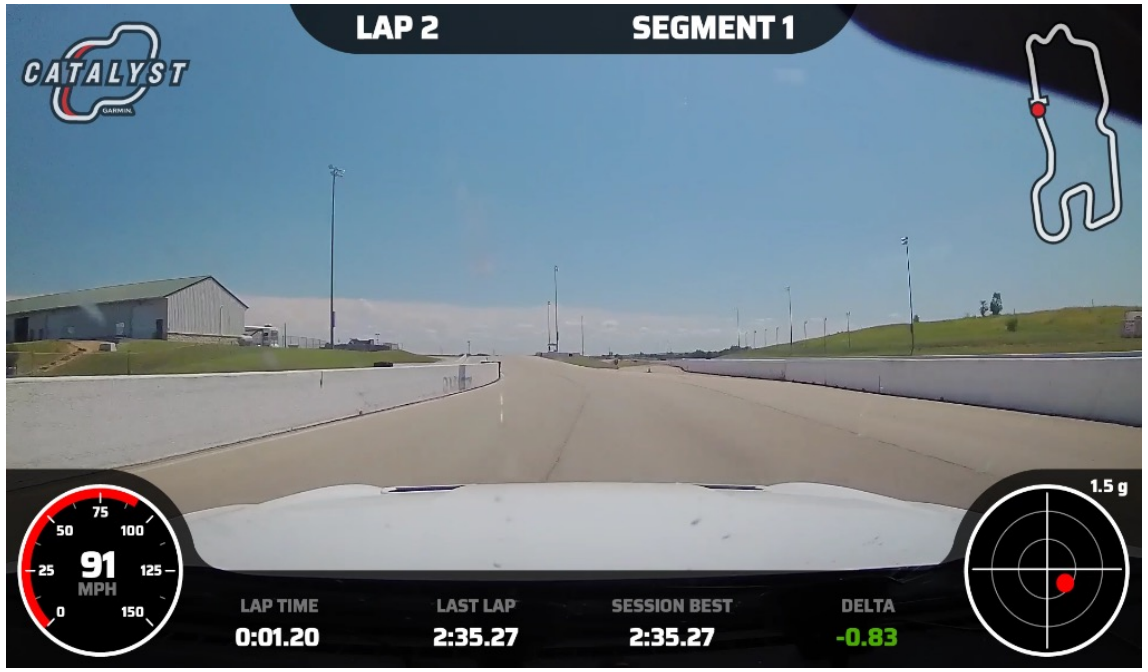
Catalyst reinforces what it took to do those things exceptionally well.

While acceleration and speed are important, the time gain/loss at the bottom is the best.

DOWNLOAD THE 5-15-1 PROCESS document at https://speedsecrets.com/partners/

SPEED SECRETS

Garmin Catalyst Video Render and Capture



The Catalyst will render basic data on the background of the video for export or saving.

Takes a little while.

Select from the top right corner of the screen which laps after opening the session.

MicroSD card under the lower rear cover in folders labeled with the track/driver/date.

AiM Track Kit Overview

Single RAM Suction Cup mount and alloy arms holding SmartyCam HD and Solo 2 DL.

Equipped with an OBDII plug for power and basic car information.

Should not interfere with car, just listening.

Make sure there is a full-size SD card in the camera, 32 GB is good for seven hours.

AiM Track Kit Training with Simple Feedback

Divide the track into smaller pieces.

Work on individual skill executions or corners.

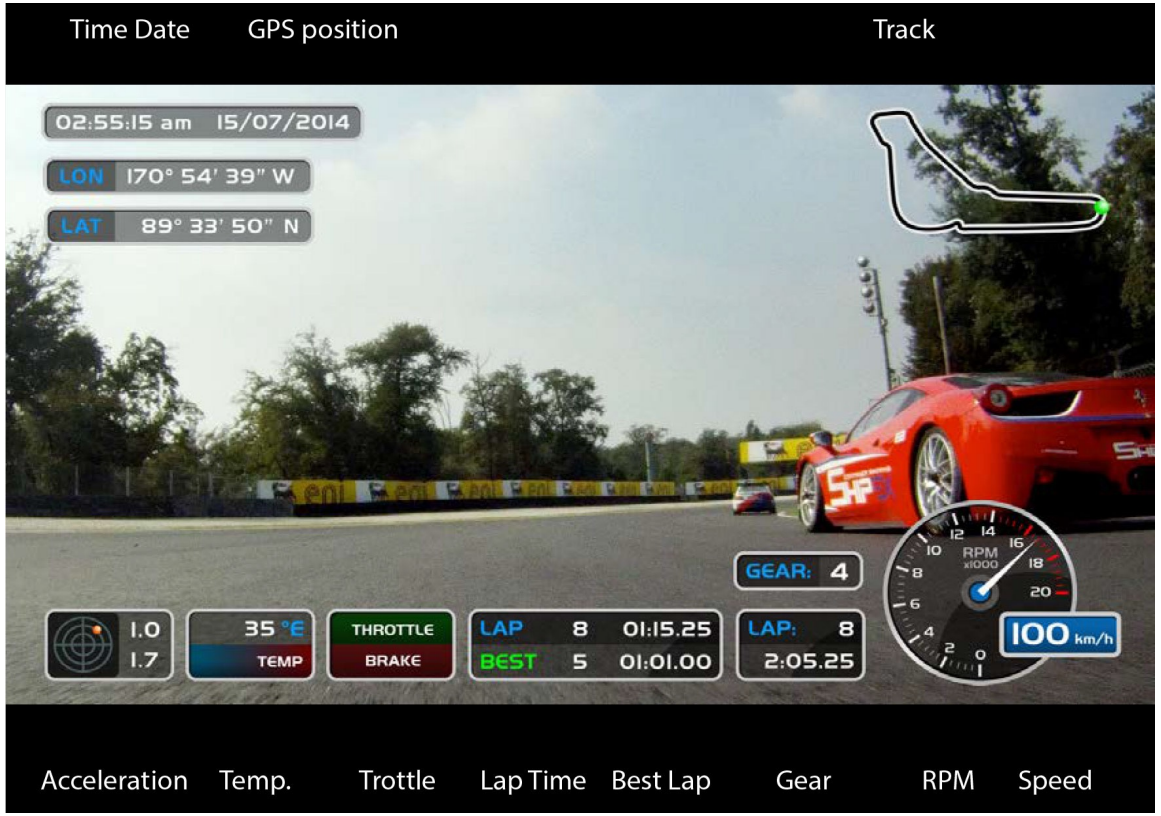
Pick a prime and an optional approach/line/gear.

Practice to get good at both.

Let the data show which works better (and by how much) using the +/- predicted time.

SPEED SECRETS

AiM Track Kit Training using Video Review



Line validation.

Scrub forward to end, note quick lap and scrub back to the beginning to watch.

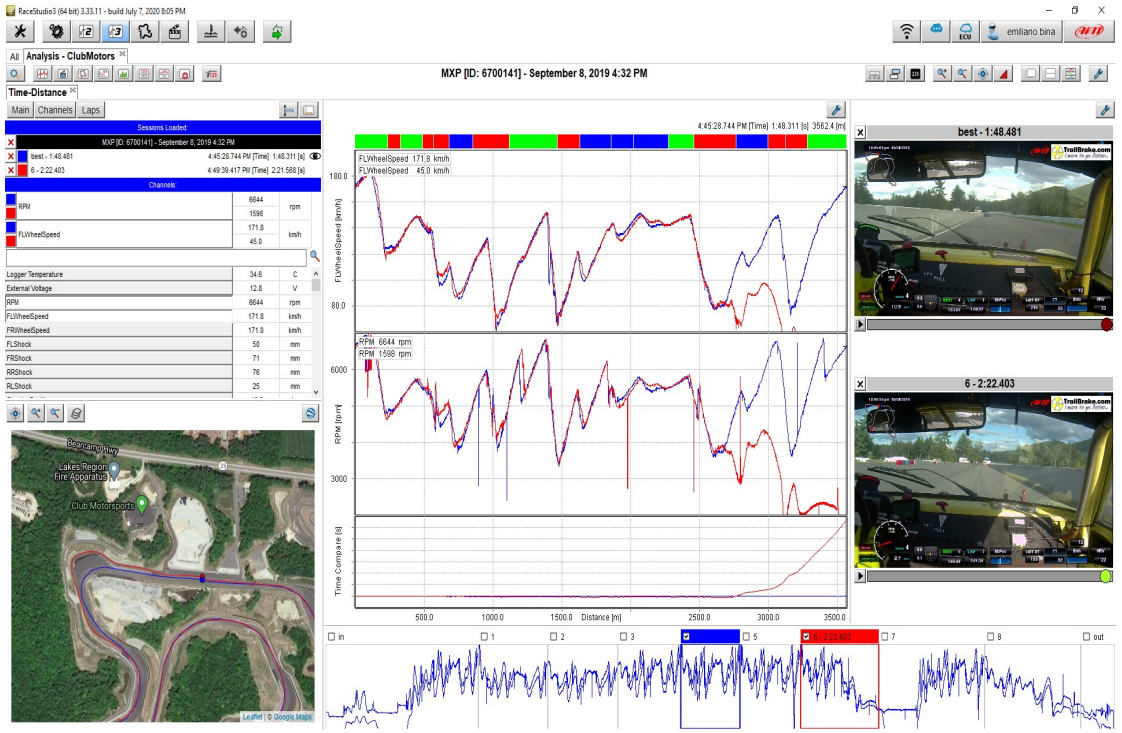
Watch the friction circle for evidence of trail-braking or brake-turning.

Compare lat and long g's between turns and brake zones.

If throttle works, stress progressive and CONTINUOUS application to WOT (wide open throttle).

SPEED SECRETS

AiM Track Kit Data Overlay



AiM-Sportline.com Race Studio 3 Analysis:

https://www.aim-sportline.com/en/sw-fw-download.htm

Biggest benefit from this is synced video and data in the same window.

Compare drivers, cars, sessions.

Includes simple measures plus Google Earth.

SPEED SECRETS

Self-Coaching & Instruction with AiM Data

- Your common goal is to solve the problem; "how do I *go* faster, with *less* risk?"
- Tightly targeted and limited review of what happened.
- Avoid going down the "rabbit hole."
- Pick TWO things to work on next session.

Video Review: MUCH More Valuable with Measures

- Car Placement
- Gear Selection
- Shifting Up/Down
- Throttle behavior
- Handling Traffic
- Consistency

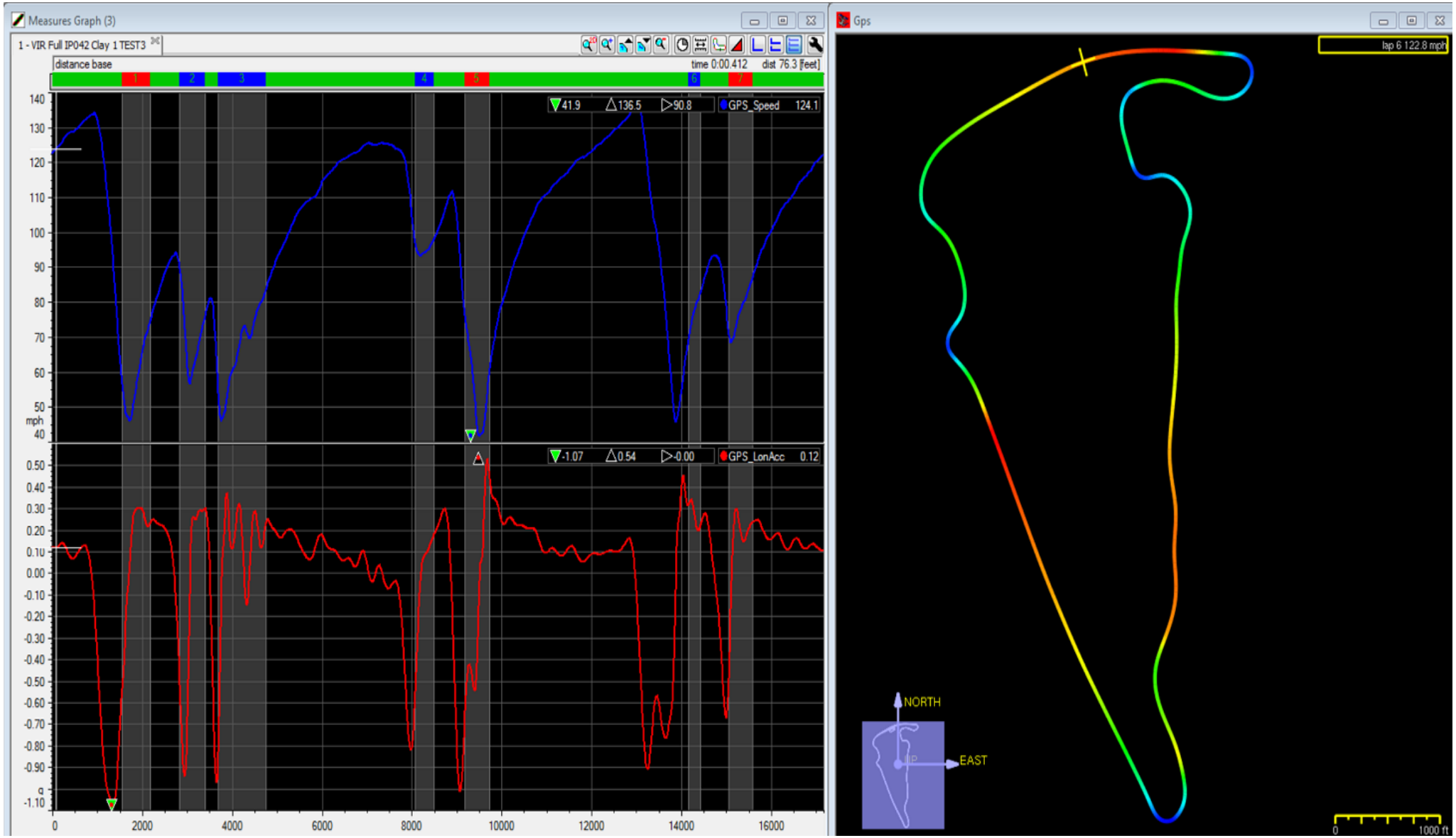
Develop a Methodology to Identify Low-Hanging Fruit

- Goal not necessarily to optimize driver performance.
- Find targeted, actionable opportunities for improvement.
- Reinforcement of "best execution of fundamental skills."
- Pre-event prep required, MASSIVE time-saving tool!
- Prep with three profiles maximum, always include GPS map.
- Load GPS math channels.
- Maths are objective measures of subjective valuation.

Place to Look for Opportunities for Improvement

- Transitions with pedal inputs.
- Sawtooth from WOT to brake, “v’s” and “u’s” at vMin areas.
- Shifting, pauses in acceleration, inconsistent length of shift.
- Straight line downward stroke on speed versus distance.
- Hockey-stick speed trace at corner entry, double-pump.
- Multiple braking zones, when ONE will do.
- “Stepped” deceleration.

James Clay: World Challenge & IMSA Winner

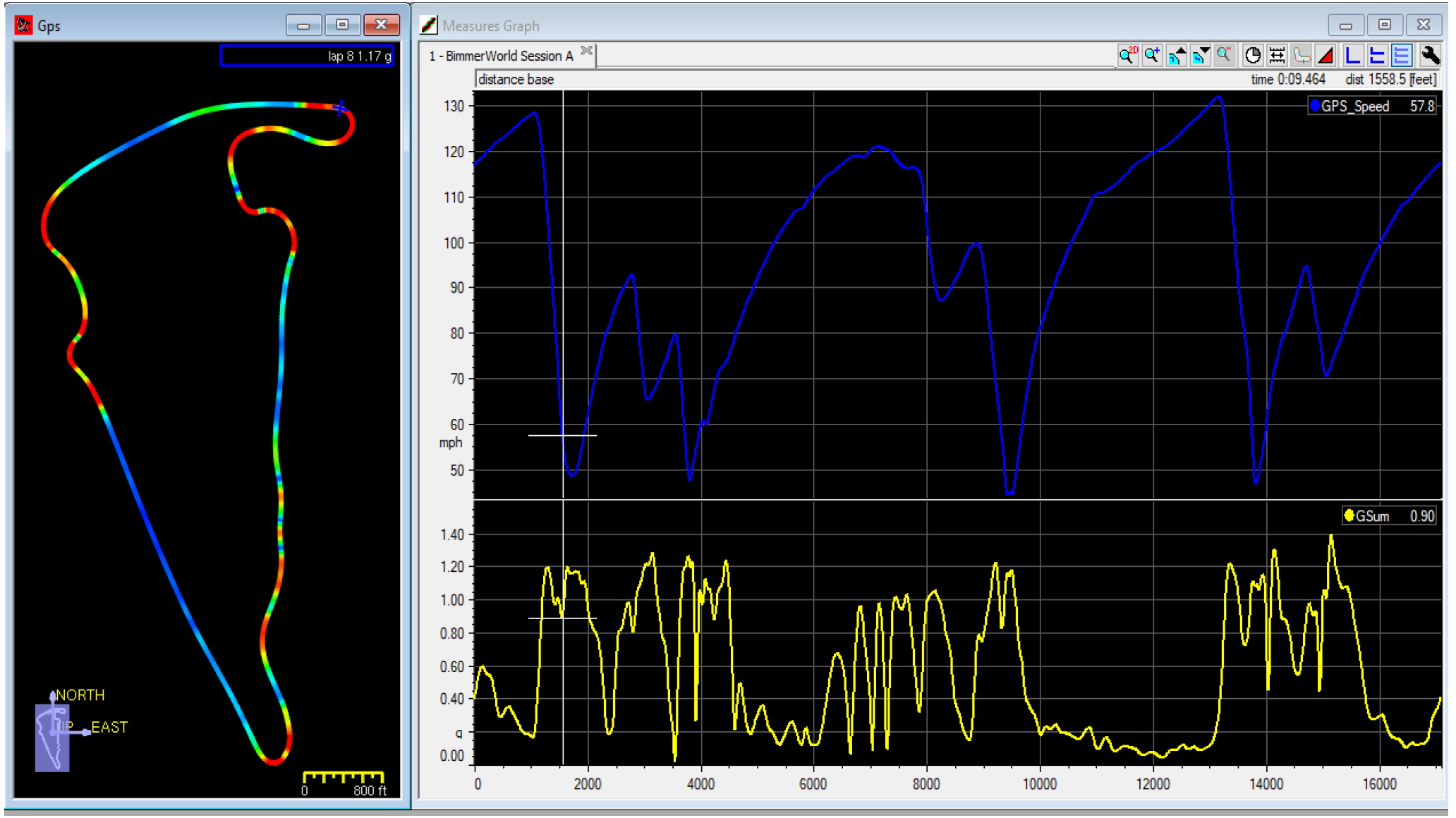


SPEED SECRETS

Quick - Blue, Less Quick – Red. Where? Why?

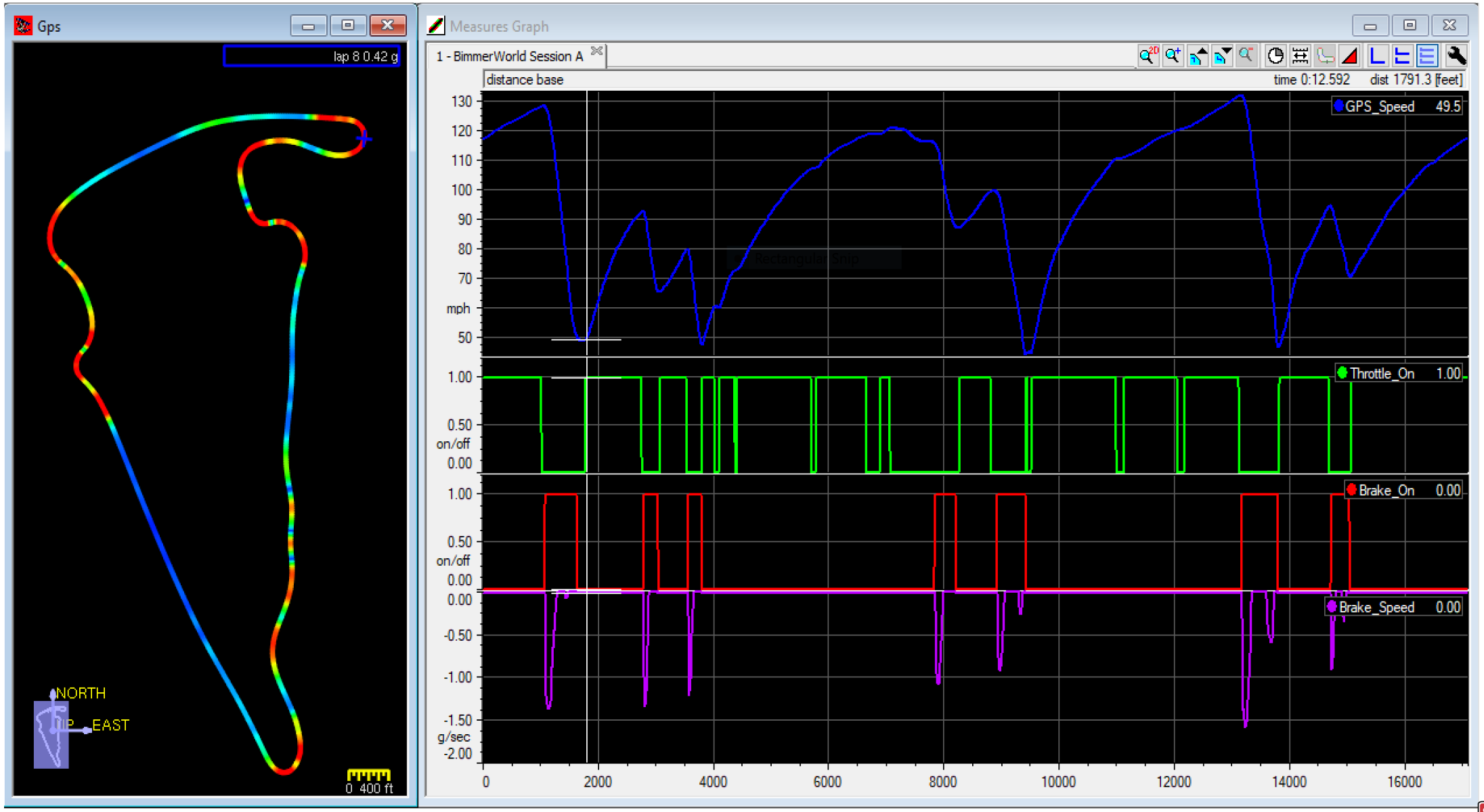
SPEED SECRETS

BimmerWorld Quick Lap – gSum Corner Entry



SPEED SECRETS

Clay GPS Throttle, Brake and Brake Speed Switches



Implement an ACTION Plan

- Develop a ten-minute review, evaluation and goal selection.
- Examine speed changes for certainty, decisiveness!
- Reduce time/distance driver is at vMin, slow corners cost!
- Minimize “coast” time under gSum.
- Look for QUALITY of brake speed, not just the decel number.
- Maths, particularly GPS “switches,” SAVE TIME.