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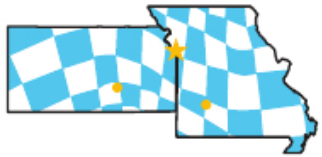
of America
Kansas City



NOVICE

Session #1

DE Objectives

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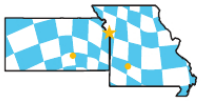

- Learn.
  - Keep open mind – listen, then apply.
- Strive for progression.
  - Safe speed before fast speed.
  - Prove you deserve to move up.
  - Stay relaxed & comfortable.
- Have fun!

Flags

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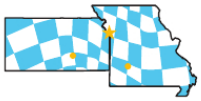

- **Single most important thing that you must learn - you must know the meaning of flags.**
- **All flags are used to warn you of possible impending danger - they are used to keep you safe.**
- **All flags must be observed instantly without question, and failure to do so will only result in your being severely reprimanded – YOU MUST OBEY THE FLAGS.**
- **Acknowledge flags.**

Flags

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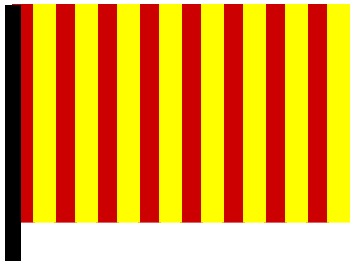

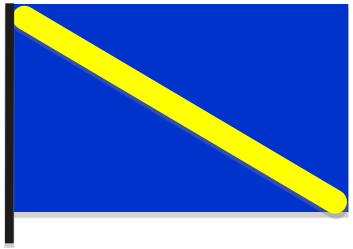

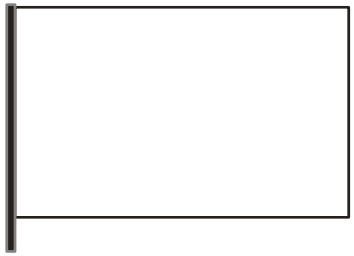

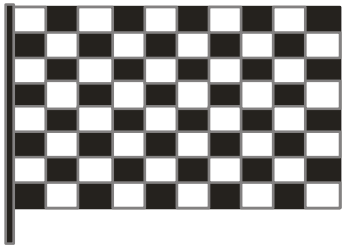

Instruction

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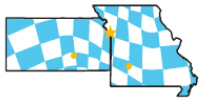

- **Listen to instructors – they're here to keep you safe and help you learn.**
- **Instructors have different experiences, so language may be different.**
- **What to expect:**
  - **Verbal instruction.**
  - **Hand signals.**
  - **Right-seat steering.**
  - **Feedback, evaluation, commands and support.**
- **Safety is #1.**
- **Objectives for every session – set in classroom, and emphasized by in-car Instructors.**

Strategies… Objectives…

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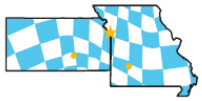

"A sure sign of insanity is doing the same thing over and over again and expecting something to change." - *Einstein*

- **Seat time for the sake of seat time is inefficient.**
- **Use objectives & strategies for improvement – every session.**

Preparation

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- Clean your car's interior.
- Check tire pressures.

Driving Basics

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- **Seating:**
  - **Bent arms.**
  - **Bent legs.**
  - **Left foot on dead pedal.**

Driving Basics

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- **Steering:**
  - **Driving is a 2-handed sport.**
  - **Hold wheel at 9 & 3.**
  - **Smooth.**

Driving Basics

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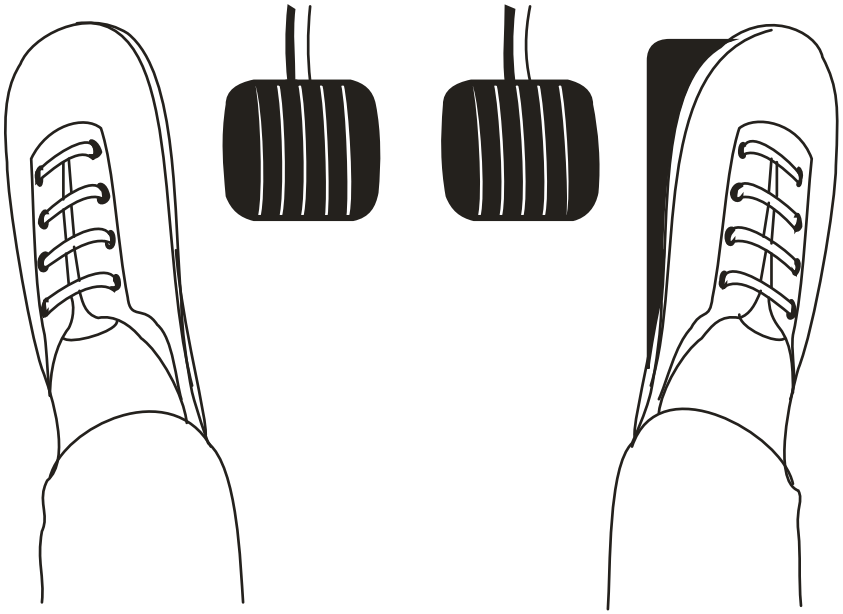
- **Footwork:**
  - **Left foot on dead pedal.**
  - **Keep heels on the floor.**



Driving Basics

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- **Shifting:**
  - **Smooth is more important than fast.**
  - **Place shifter in gear.**
  - **Shift with finesse.**

Driving Basics

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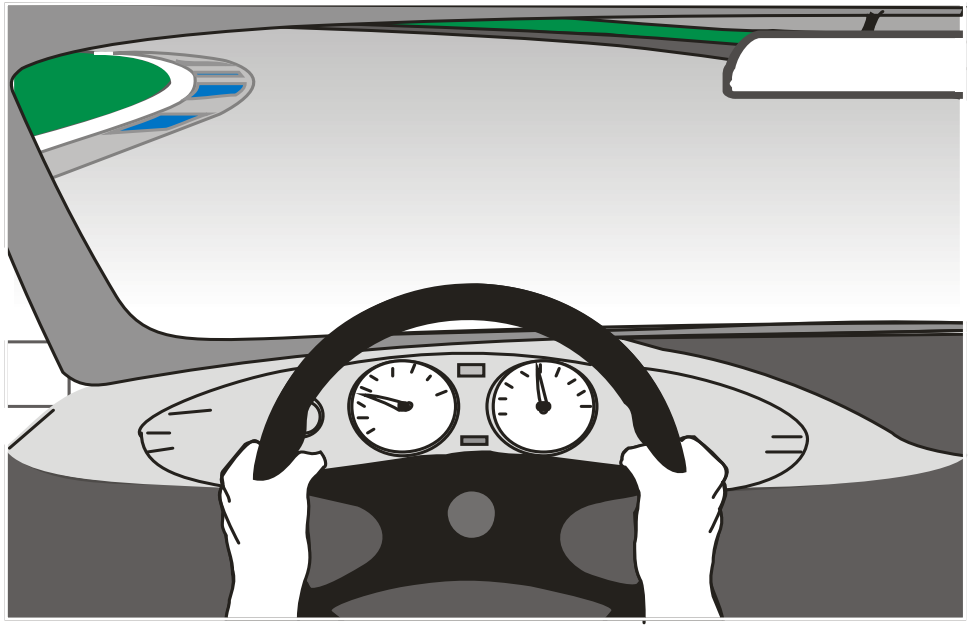
- **Vision:**
  - **Look farther ahead.**
  - **Look where you want to go.**
  - **“Big eyes.”**



Track

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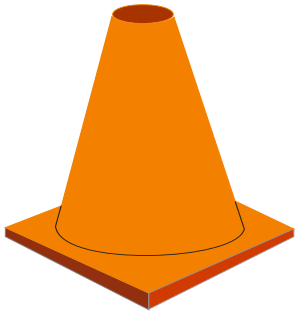
- Track entry & exit.
- Track layout.
- Cones.
- Passing rules.



The Line... A Preview

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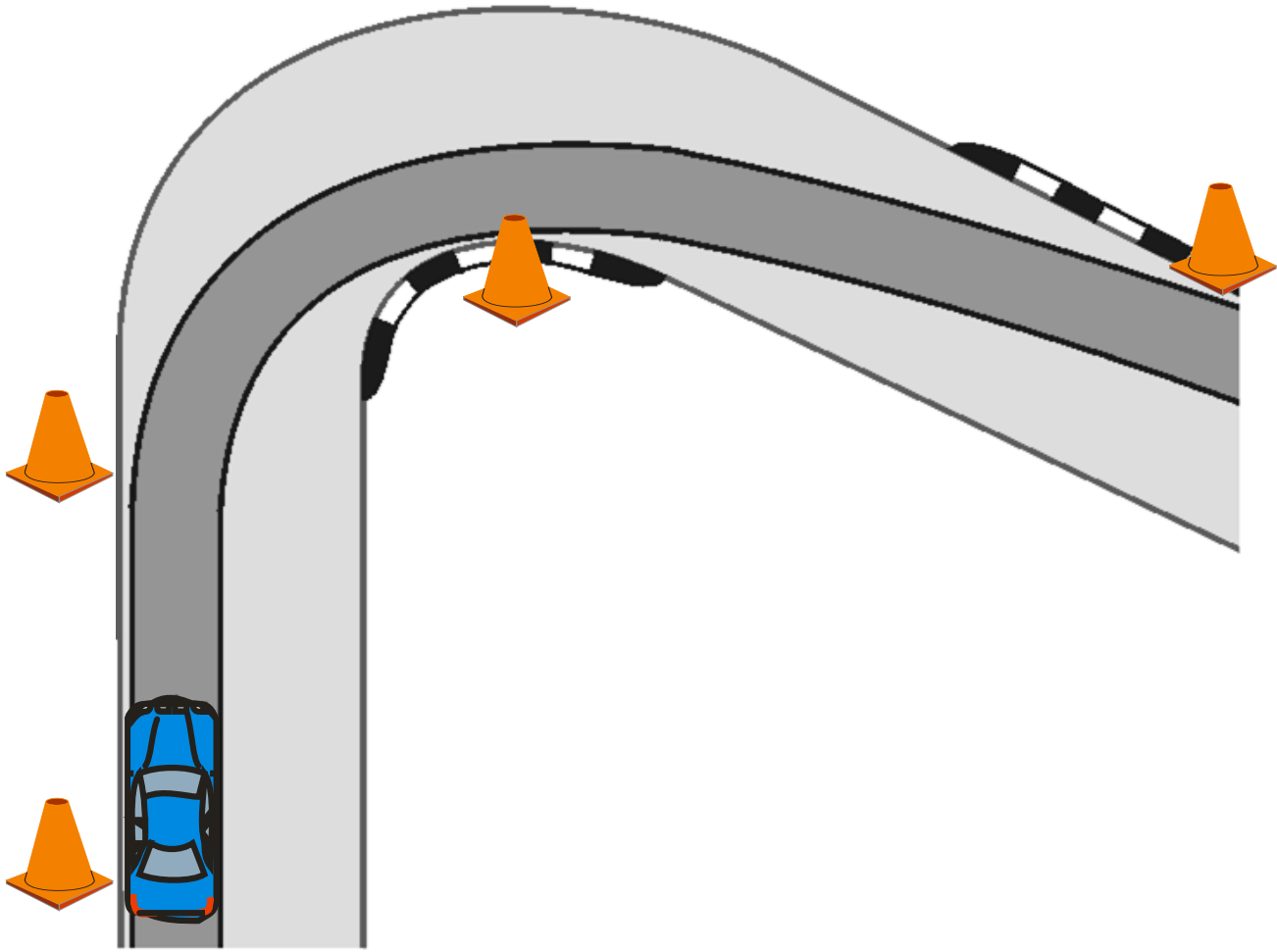
- **Begin-Braking.**
- **Turn-in.**
- **Apex.**
- **Exit.**



Q & A

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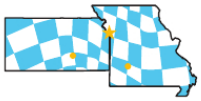

- **Questions?**

On-Track Objectives – #1

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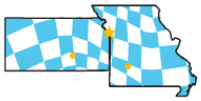

1. **Learn track – which way it goes, and references.**
2. **Smooth use of controls.**
3. **Get comfortable.**

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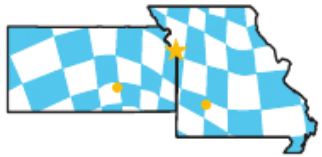

NOVICE

Session #2

1st Session?

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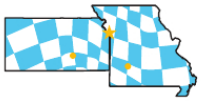

- How did it go?
- Questions?

Reference Points

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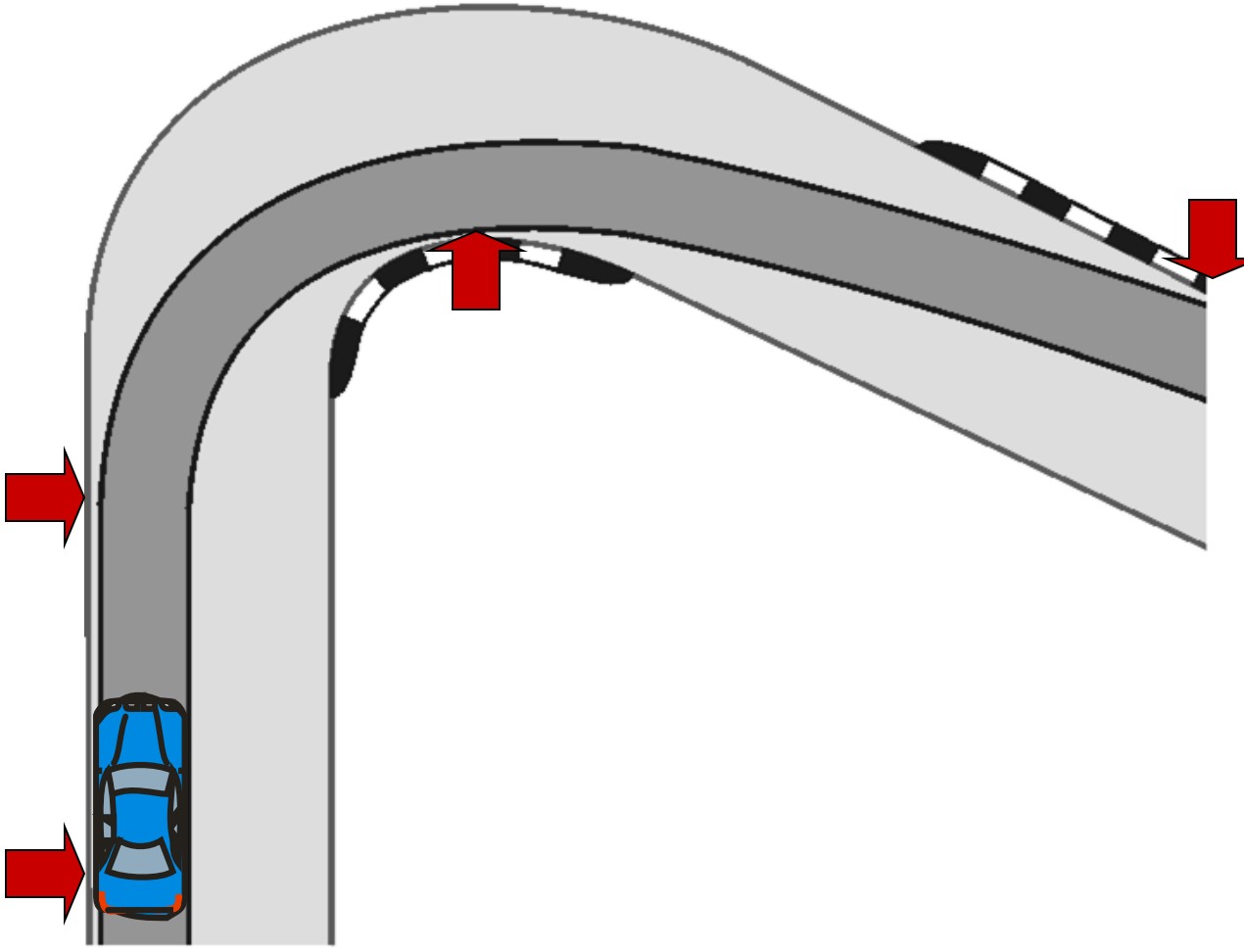
- **Begin-Braking.**
- **Turn-in.**
- **Apex.**
- **Exit.**



Geometric Line

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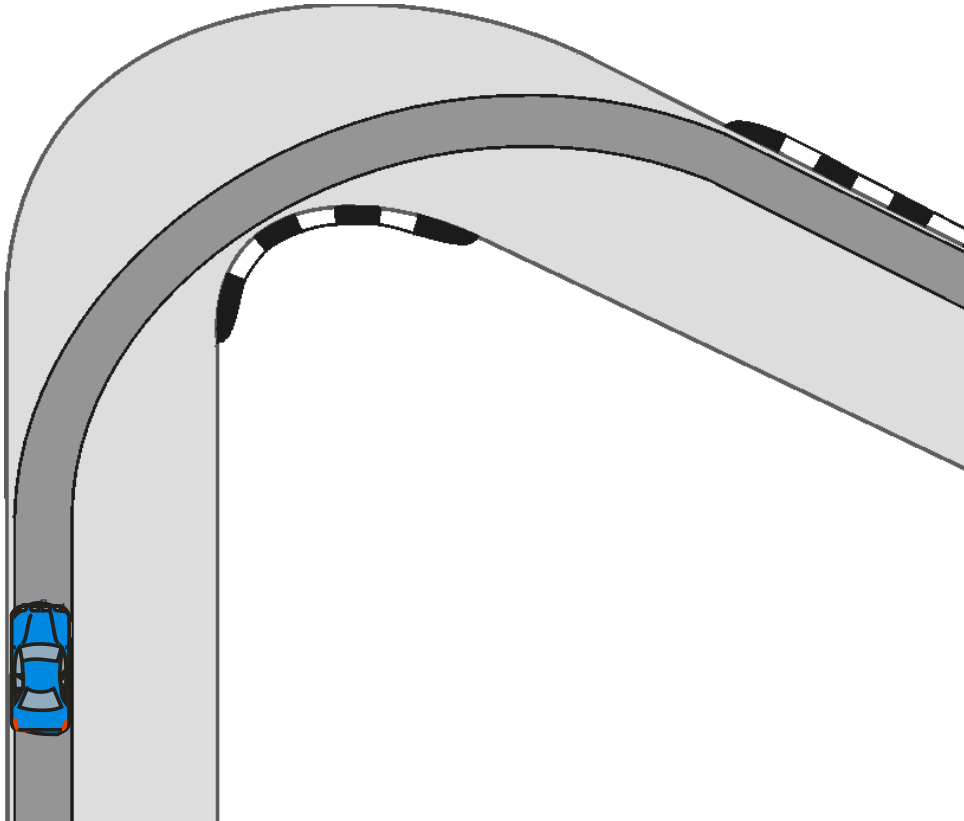
- **The fastest way to drive through one turn.**
- **Not the fastest way around track.**



Geometric vs. Late Apex

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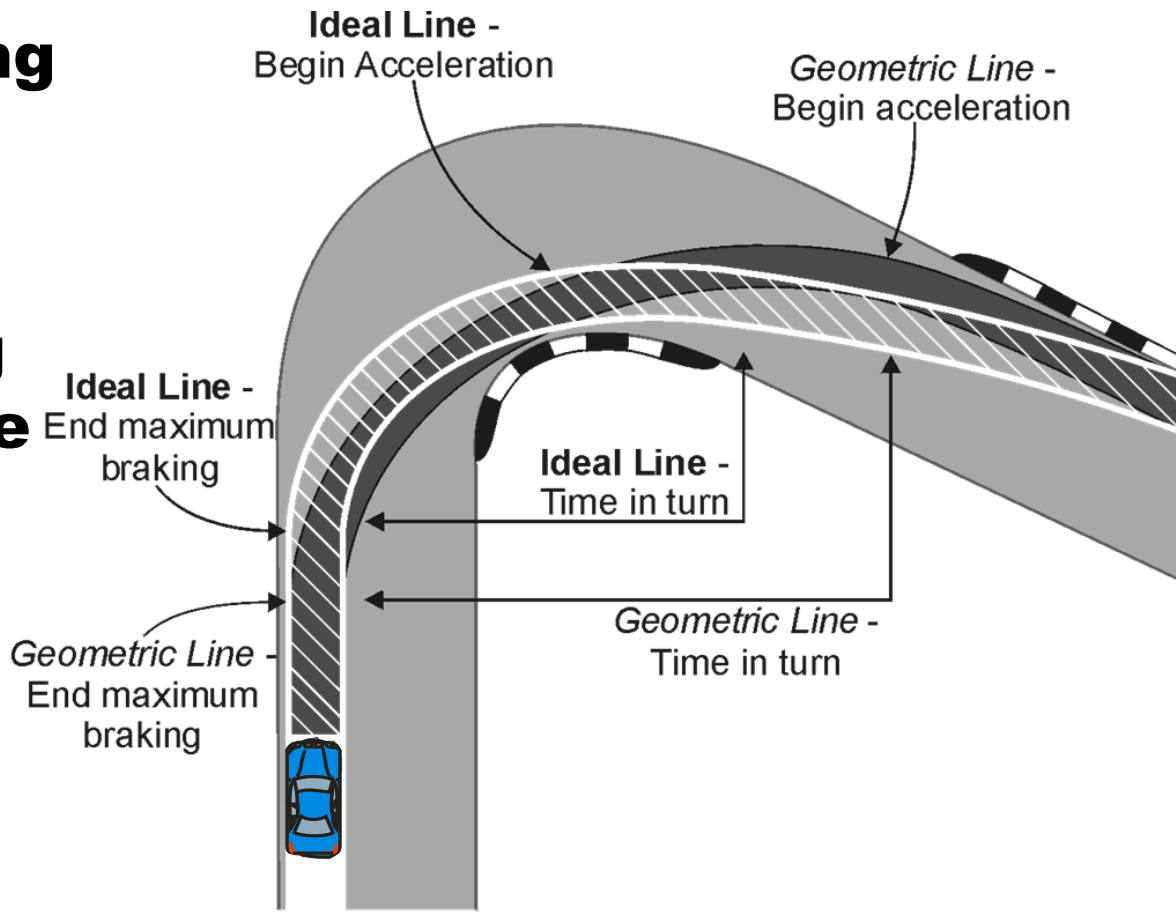
Advantages of Late Apex:

- Maintain straightaway speed longer.
- Begin accelerating earlier.
- See through turn.
- More time driving straight, less time cornering.



Corner Radius vs. Apex

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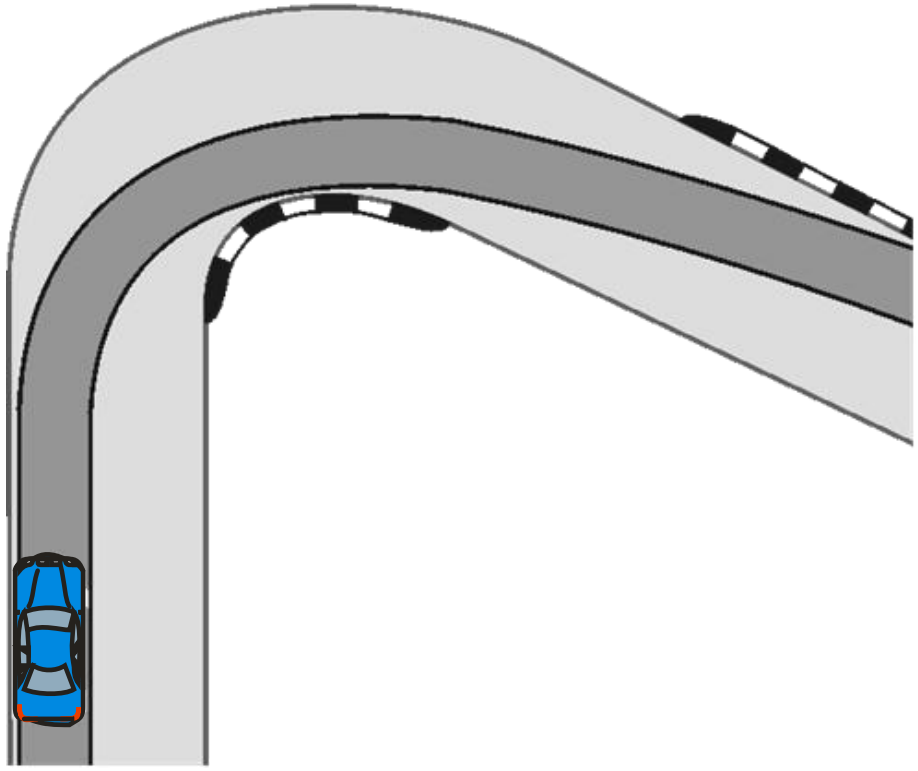
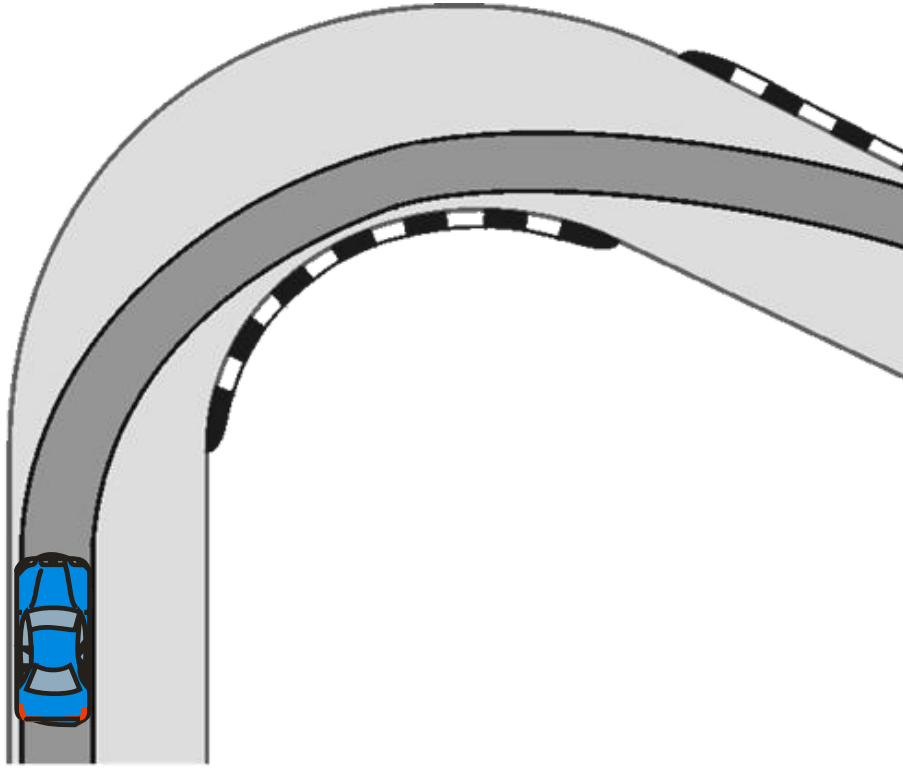
- **The tighter the radius, the later the apex.**
- **The larger the radius, the earlier the apex.**





Remember...

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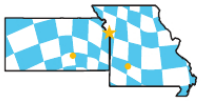

In Slow – Out Fast.

Corner exit speed is more important than corner entry speed.

Off-Track...

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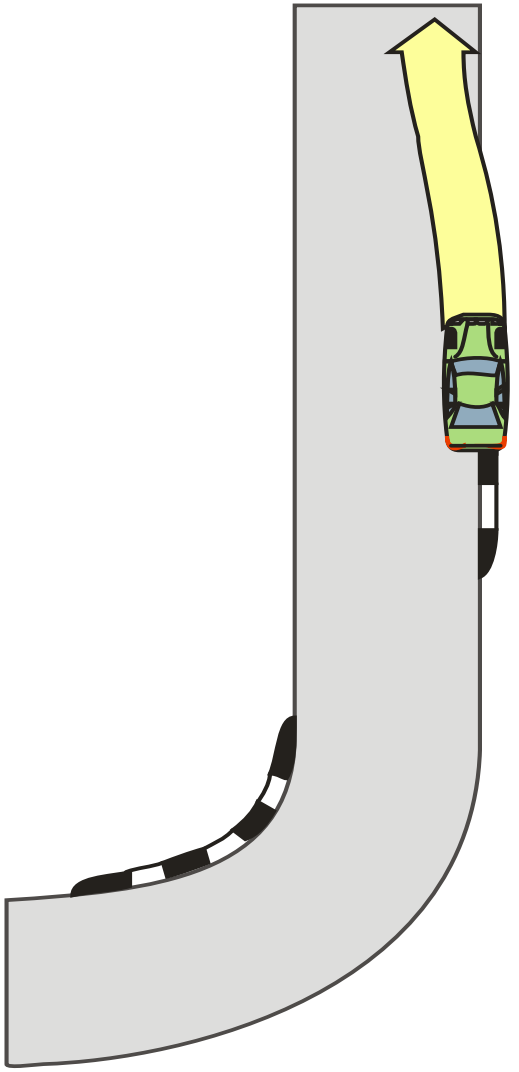
Off-track recovery:

1. Look where you want to go.
2. Keep steering straight.
3. Ease off throttle.
4. Gently ease back on track (watching for traffic).



Q & A

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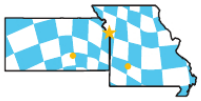

- **Questions?**
- **Problem areas?**

On-Track Objectives – #2

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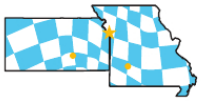

1. Vision – look ahead.
2. Establish braking points.
3. Focus on exit speed.

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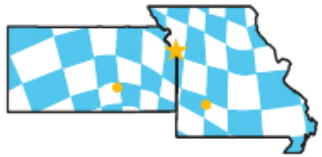

NOVICE

Session #3

2nd Session?

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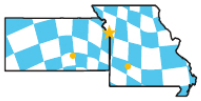

- How did it go?
- Questions?

Vision

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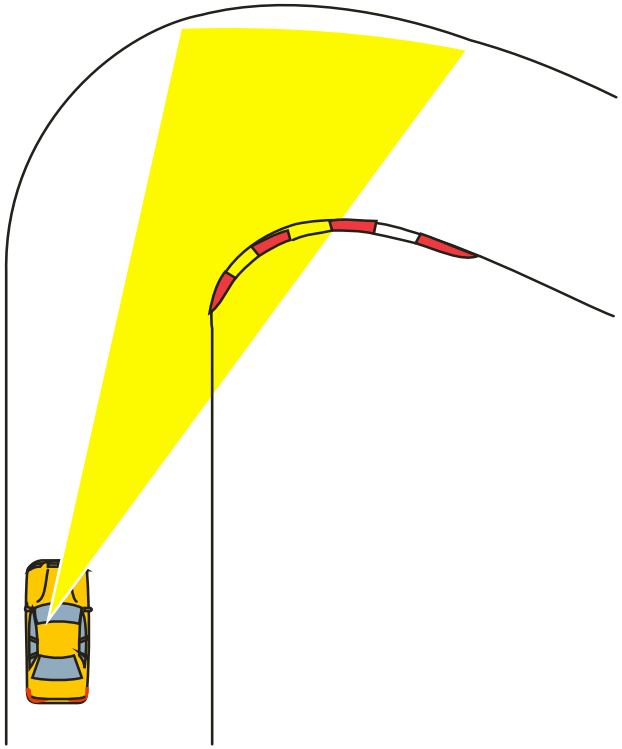
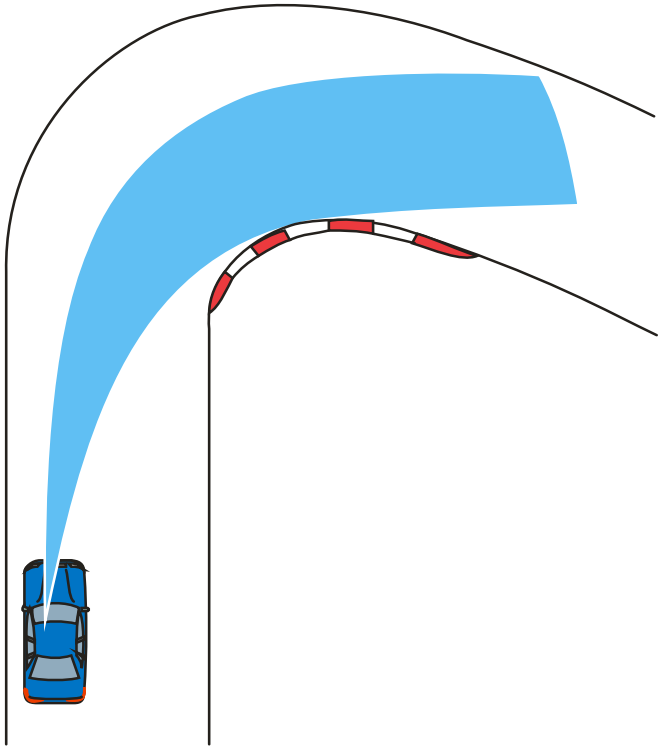
- **Look ahead – High Aim Vision.**
- **Look where you want to go, not where you don't want to go.**
- **Look through the turns.**





Vehicle Dynamics

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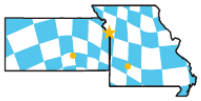

Three things you can make a car do:

1. **Accelerate.**
2. **Brake.**
3. **Change direction.**

Tire Traction

Traction limited by:

- **Tire:**
  - **Rubber compound**
  - **Construction**
  - **Size**
  - **Alignment**
  - **Pressure**
- **Loading:**
  - **Aerodynamic**
  - **Weight/weight distribution**
- **Track surface (coefficient of friction)**

V = S = B = T = S

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Vision =

Smoothness =

Balance =

Traction =

Speed (with control)

Weight Transfer

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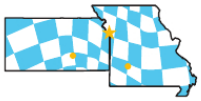

- **Balanced…**

Weight Transfer

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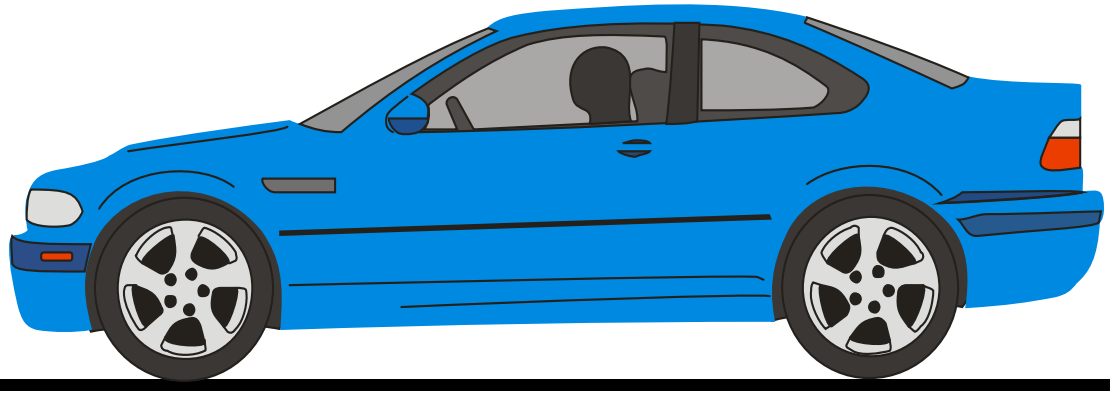
- **Acceleration…**



Weight Transfer

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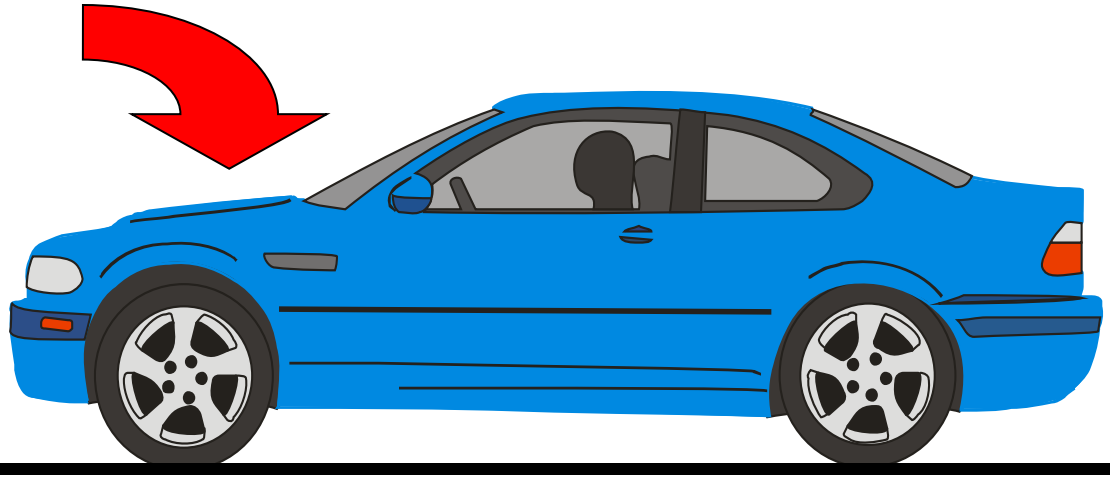
- **Acceleration…**



Weight Transfer

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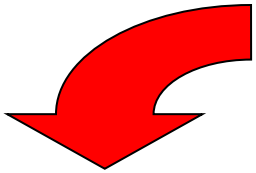
- **Braking…**



Weight Transfer

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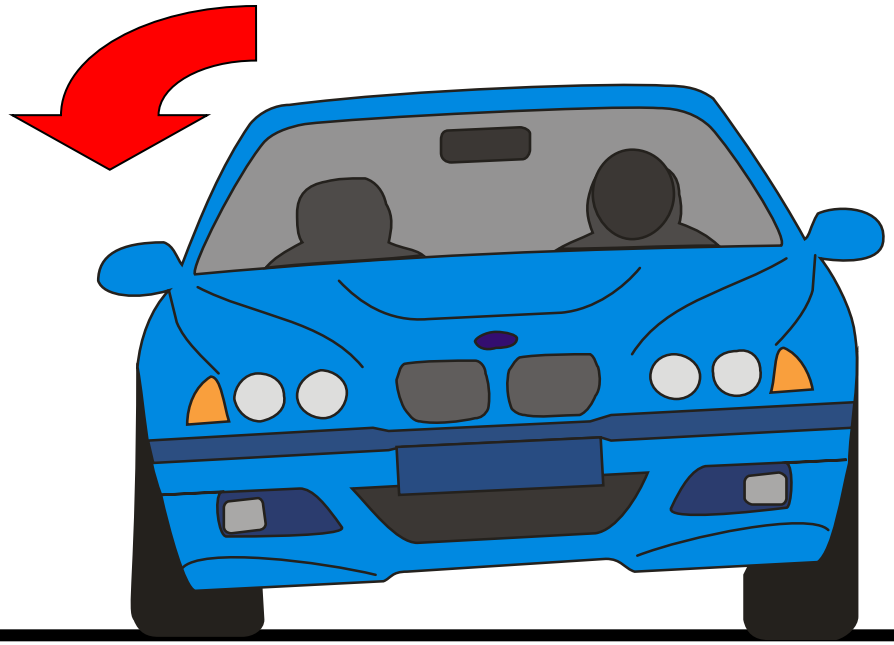
- **Cornering…**



Balance = Traction

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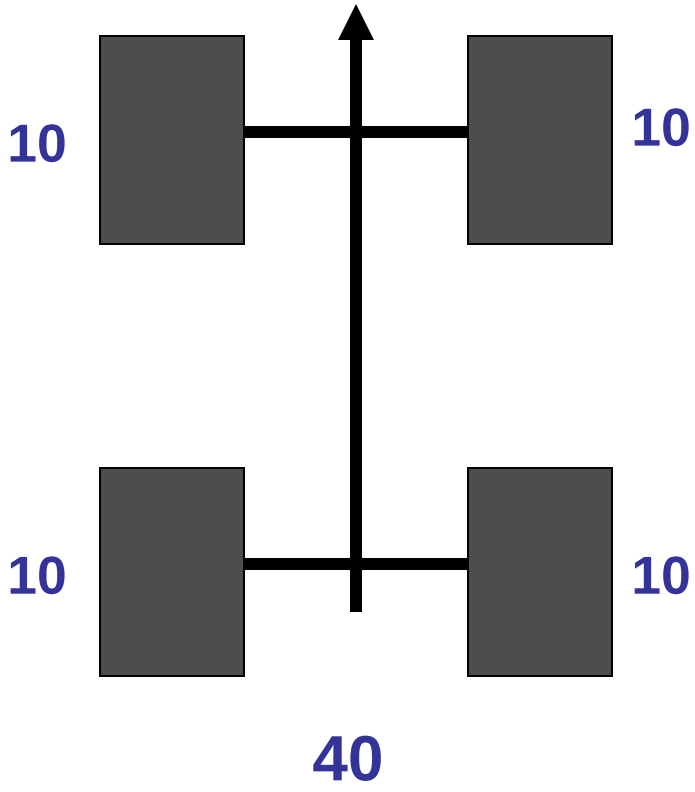
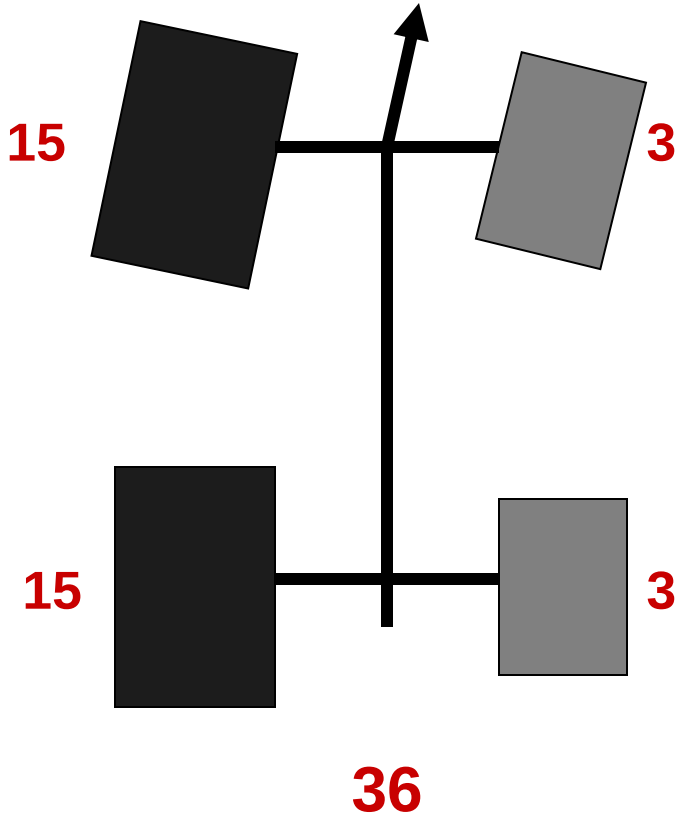
"Traction Unit Number"





Remember...

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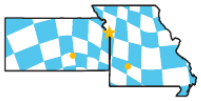

The Less Weight Transfer You Cause, the More Traction You Have to Work With.

Smooth is Fast.

High Aim Vision Leads to Smoothness.

Handling Characteristics

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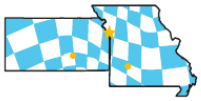
Kansas City



- Understeer
- Oversteer
- Neutral Steer

Understeer

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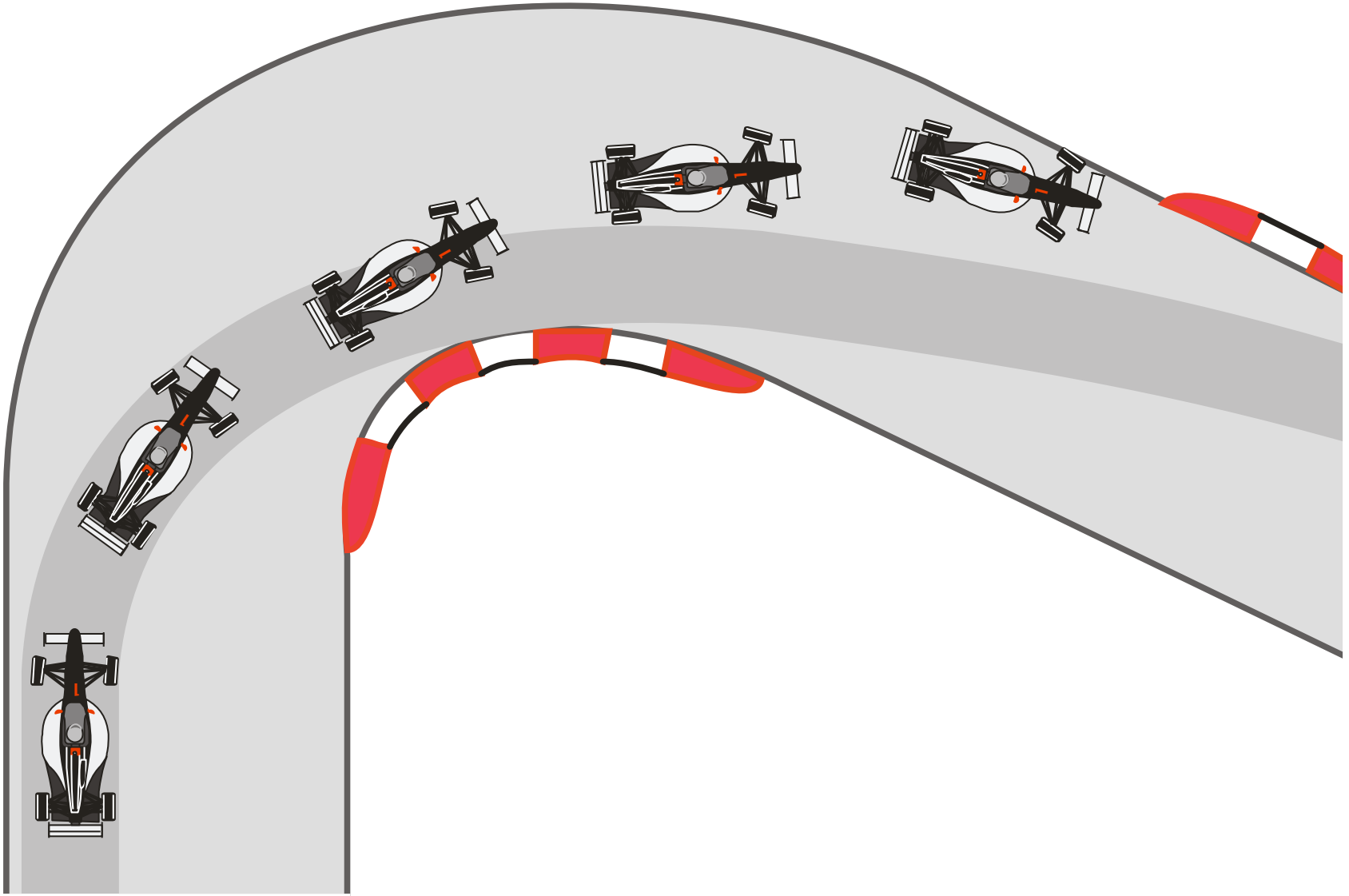

Oversteer

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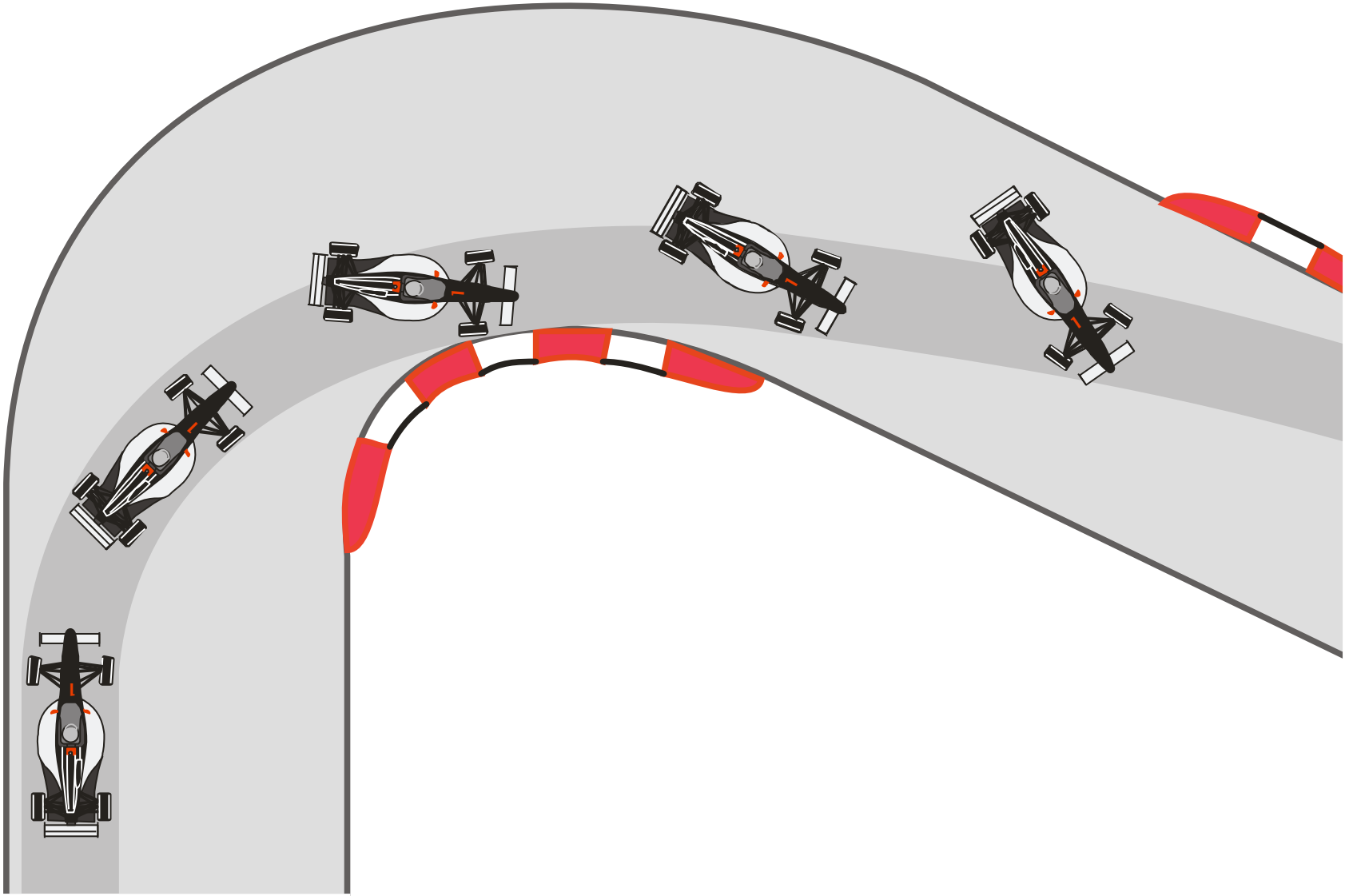

Neutral Steer

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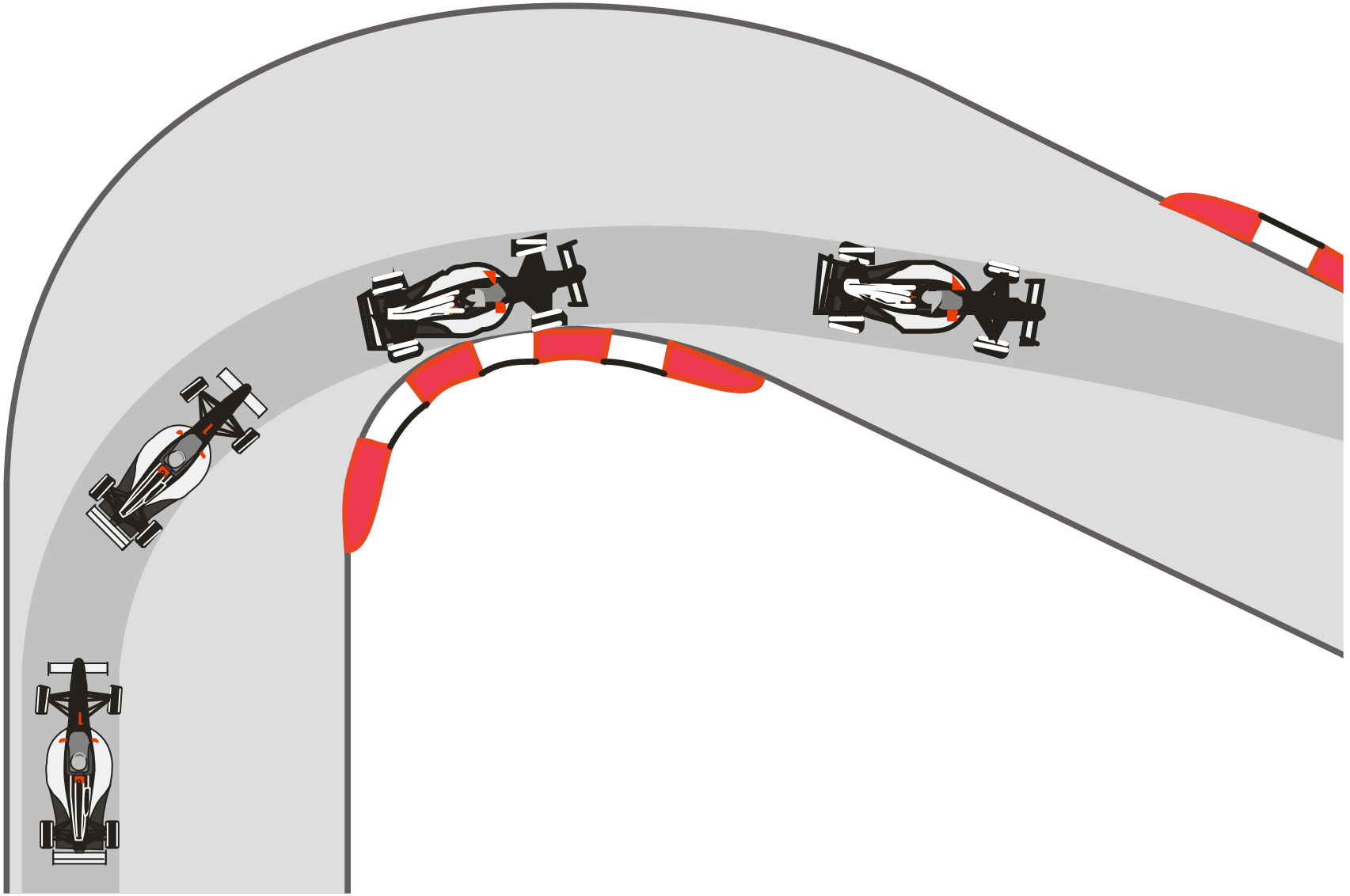

Handling Characteristics

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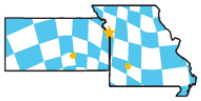

Causes:

1. **Car setup.**
2. **Weight transfer/balance.**
3. **Abrupt steering control.**

You have control over 2 out of 3 while driving.

100% Tire Rule

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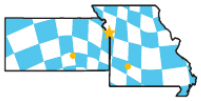

You can use 100% of a tire's traction for:

- **Braking**
- **Cornering**
- **Acceleration**

Or a combination of two…

But you cannot use more than 100%

Q & A

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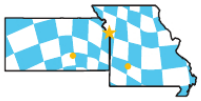

- **Questions?**
- **Problem areas?**

On-Track Objectives – #3

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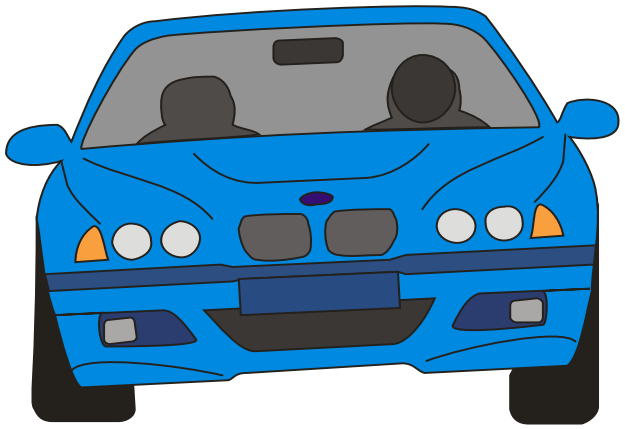
1. **Weight manager - be aware of your car's balance.**
2. **Focus on smoothness – steering input, squeeze and ease the pedals.**
3. **Finish day with smooth, precise laps - collect mental image of track for tonight's mental replay.**



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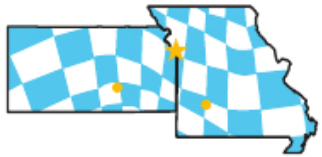

NOVICE

Session #4

Sunday Morning...

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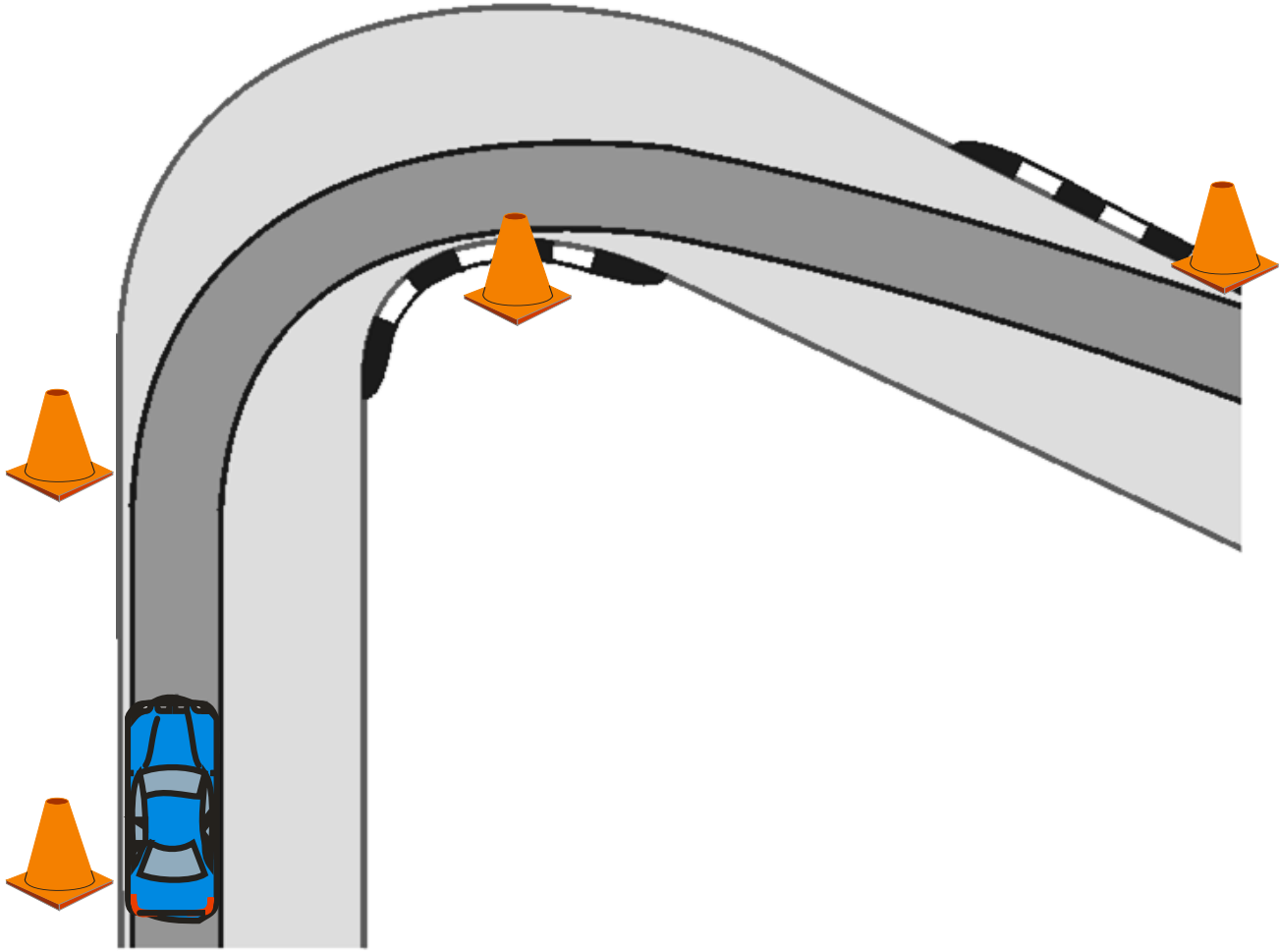
- How did yesterday go?
- Questions?
- Cones...



Errors

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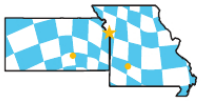

- We all make them.
- Objectives:
  - Recognize them as early as possible.
  - Minimize the effects of them.
  - Learn from them.
- Think of them as “Learning-takes.”

Turn-In Errors

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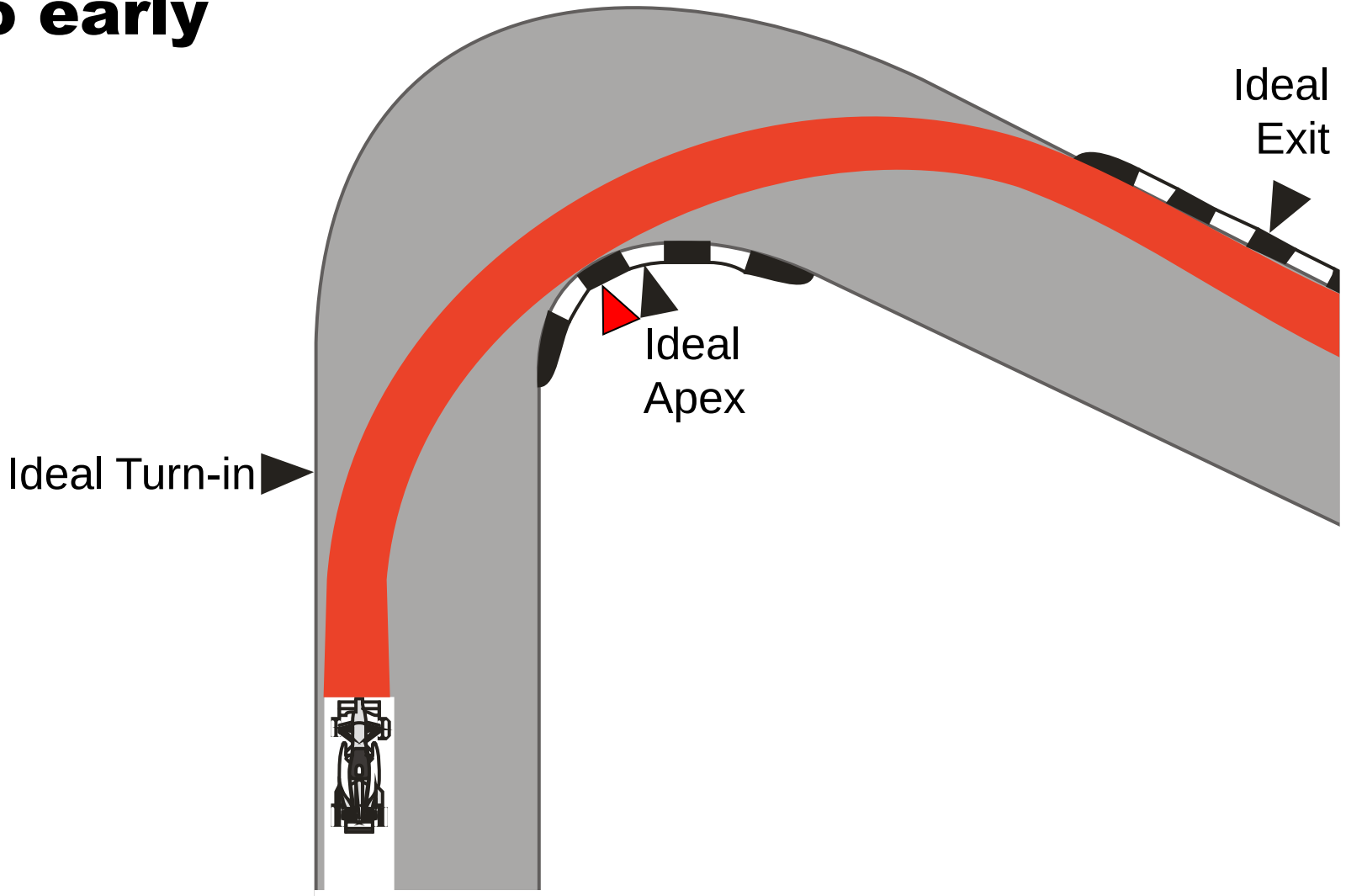
- **Too early**



Turn-In Errors

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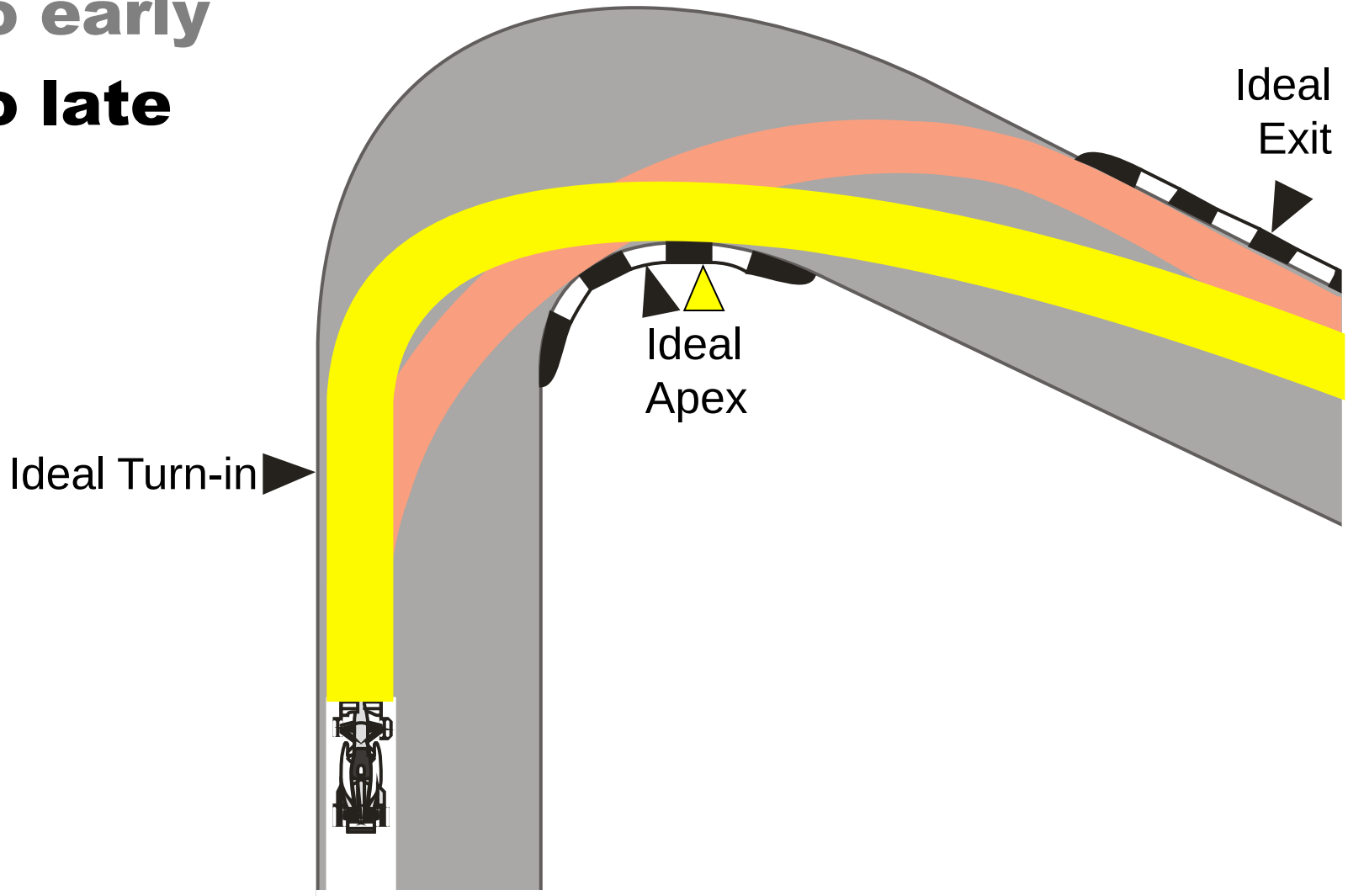
- Too early
- **Too late**



Turn-In Errors

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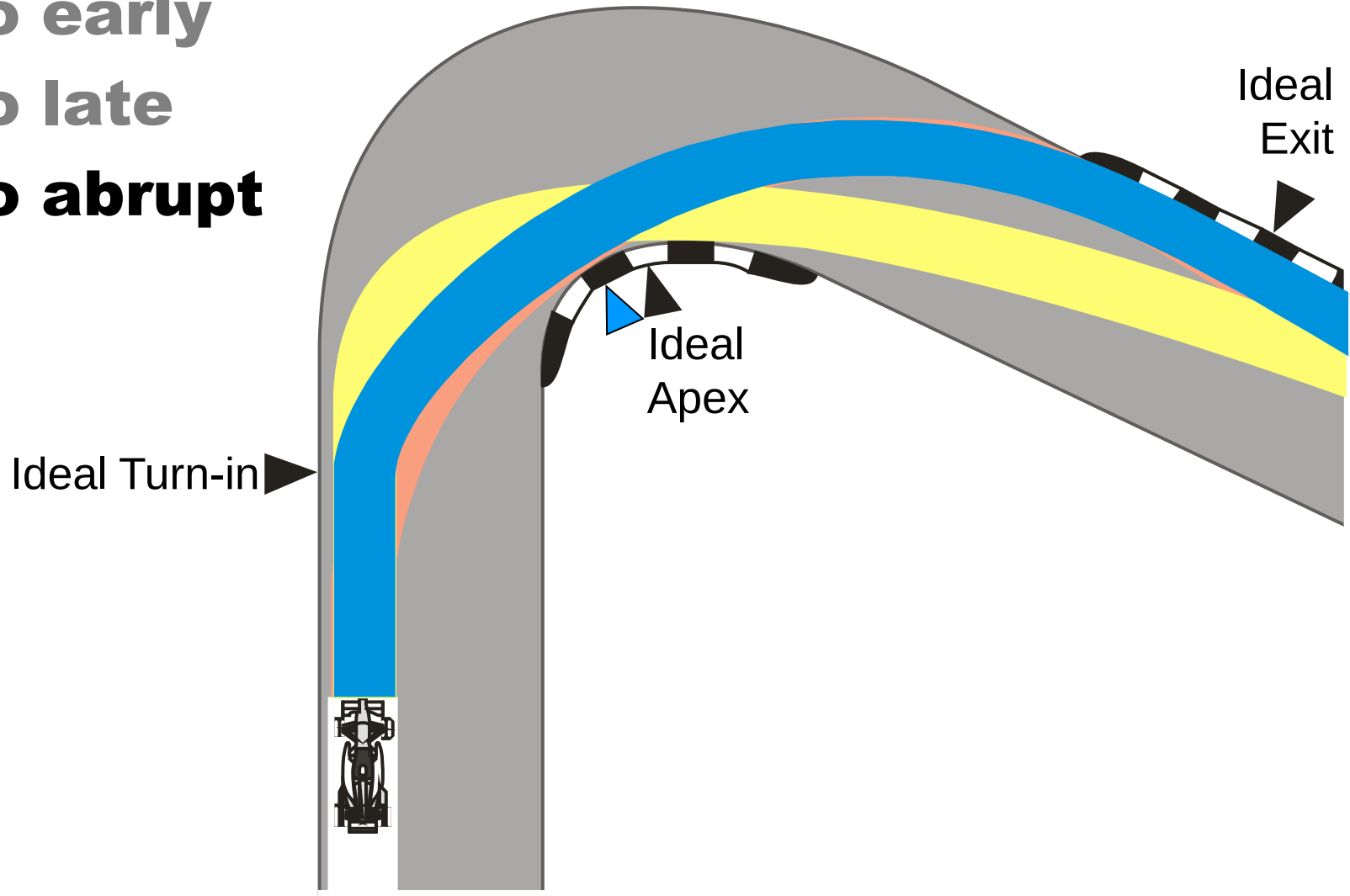
- Too early
- Too late
- **Too abrupt**



Turn-In Errors

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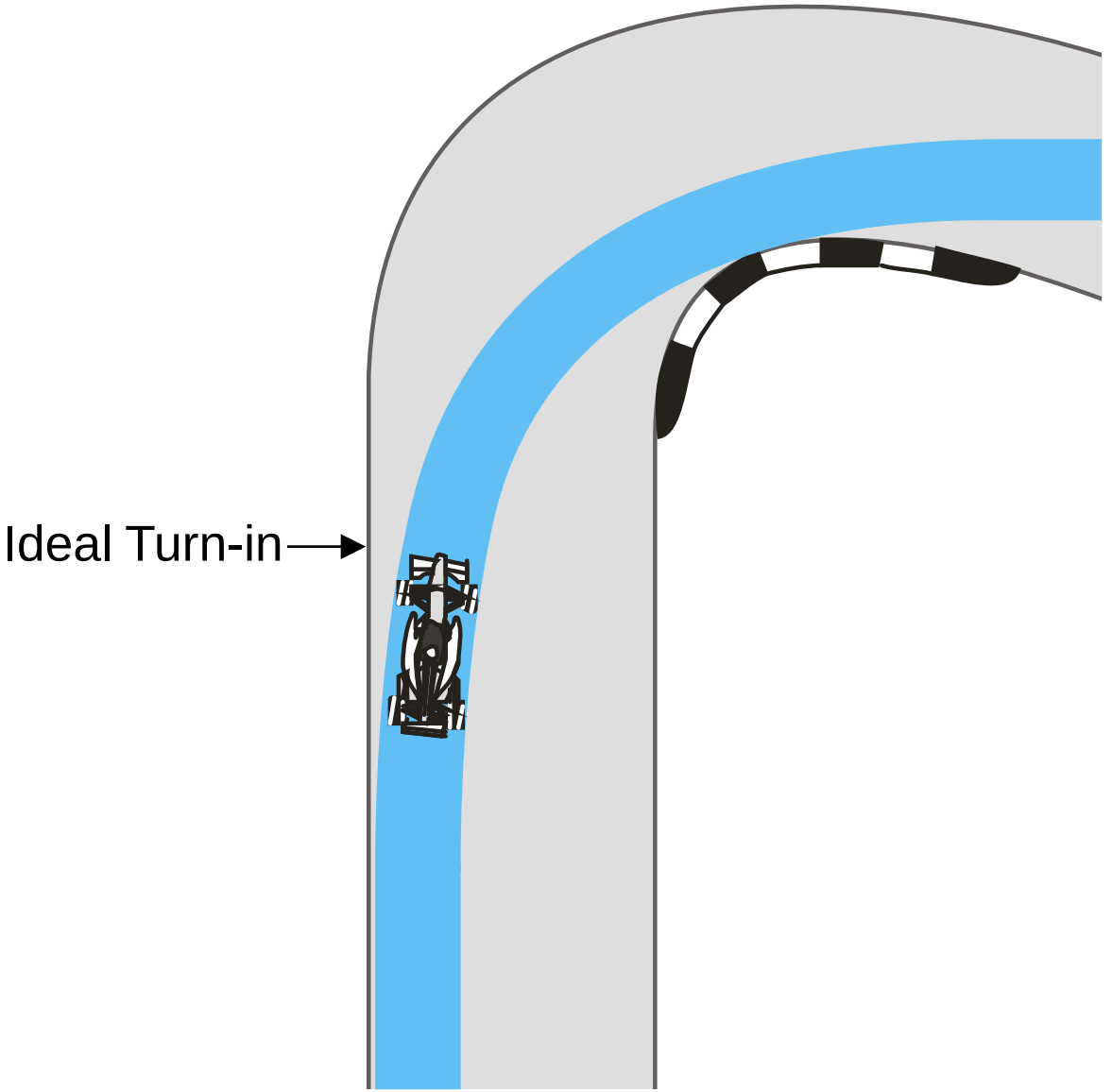
- **“Crabbing”**



Identifying Errors...

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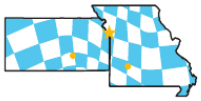

- **Did Michael Schumacher make more or less errors than you?**
- **He just identified them earlier, corrected them earlier, minimized the effects of them.**
- **How?**
- **More references...**

Remember...

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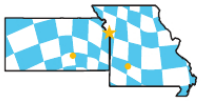

The more reference points you have, the less errors you will appear to make.

Off-Track...

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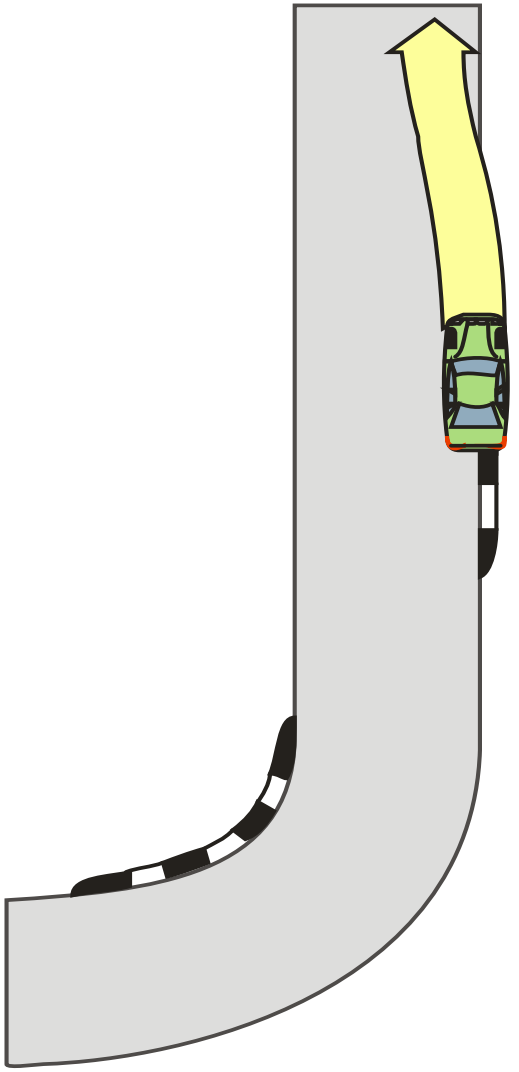
Off-track recovery:

1. Look where you want to go.
2. Keep steering straight.
3. Ease off throttle.
4. Gently ease back on track (watching for traffic).



Corner Priorities

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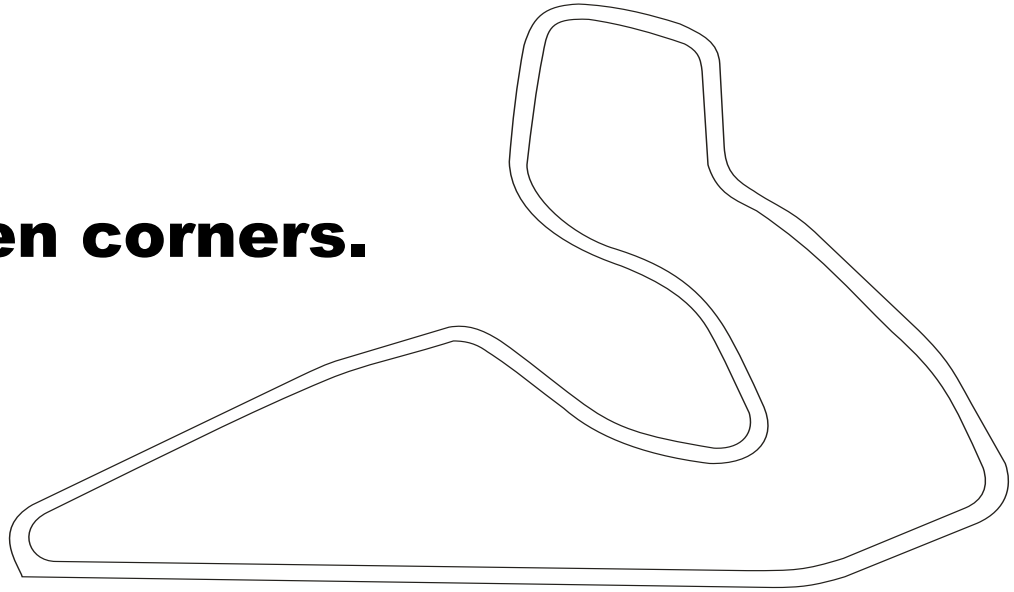
1. **The fastest corner leading onto the longest straightaway.**
2. **Next fastest…**
3. **Fastest corner at the end of the longest straightaway.**
4. **Next fastest…**
5. **Fastest corner between corners.**
6. **Next fastest…**



Q & A

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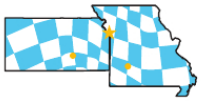

- **Questions?**
- **Problem areas?**

On-Track Objectives – #4

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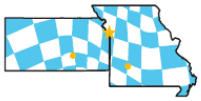

1. Fine-tune your line.
2. Work on the most important corner.
3. Work on consistency.

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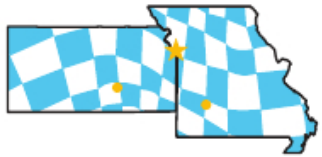

NOVICE

Session #5

4th Session?

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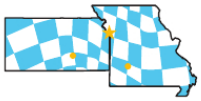

- How did it go?
- Questions?

Brains or Brawn?

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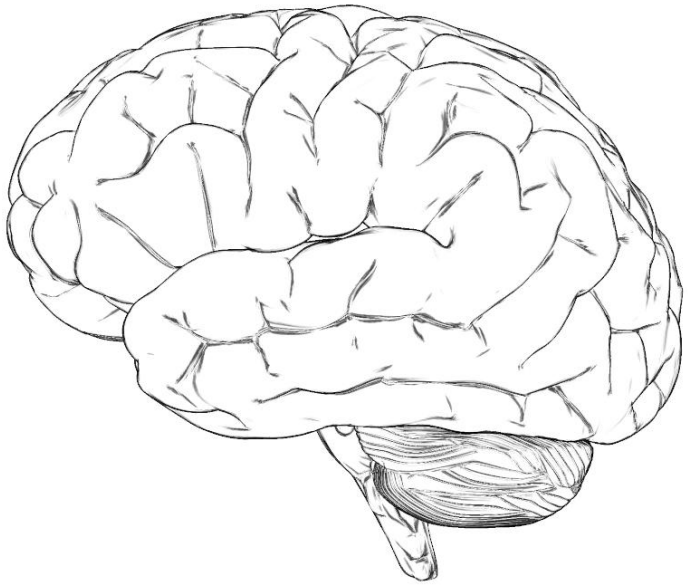
- What's driving your car?
- What percentage of performance driving is mental?
- Brain controls your body, so…



Performance Model

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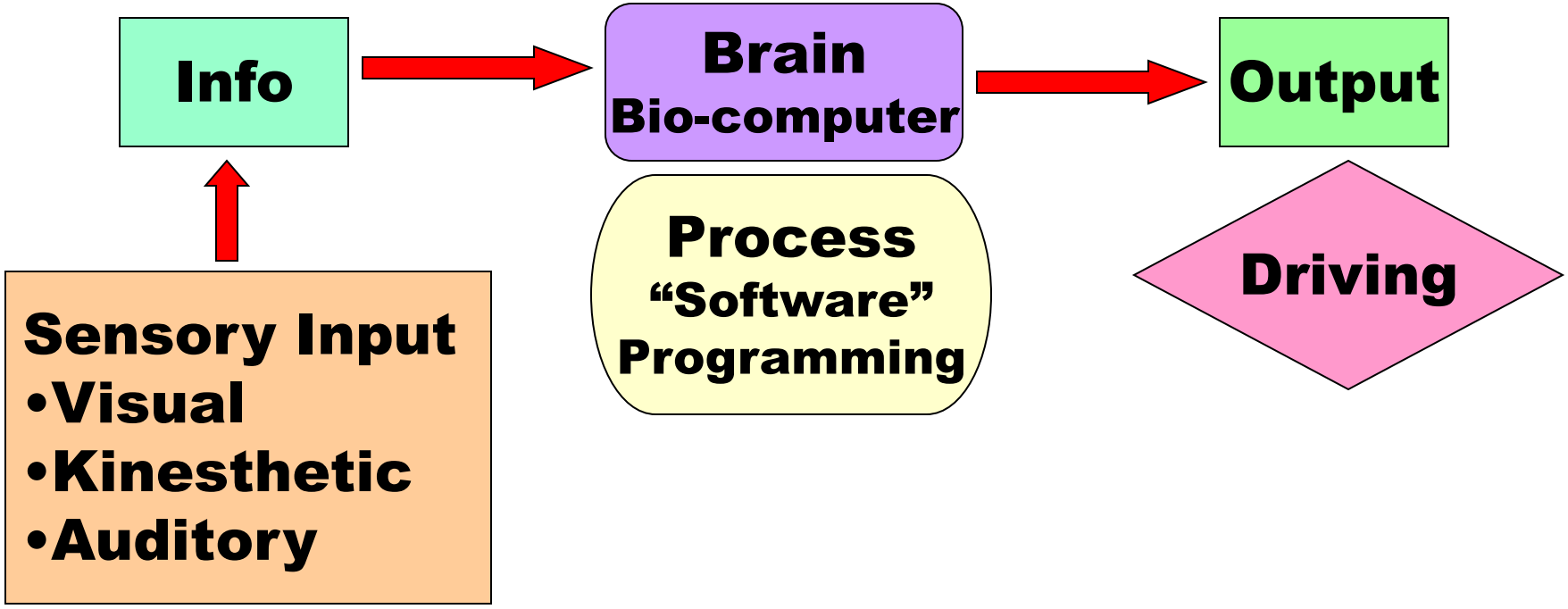

Sensory Input

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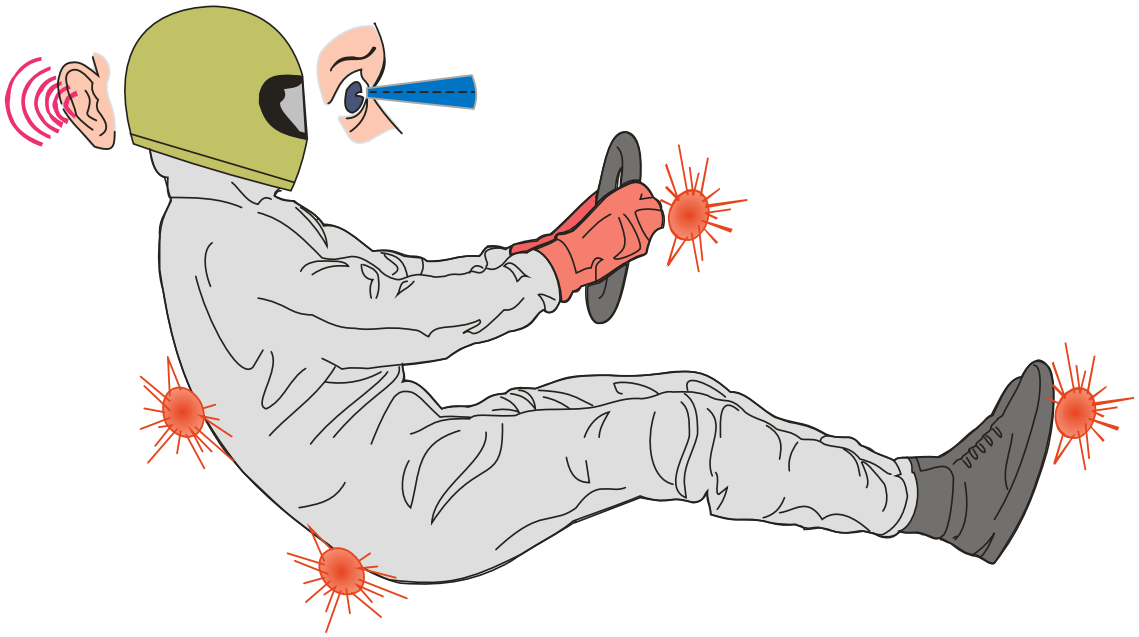
Quality In = Quality Out

- **Visual**
- **Kinesthetic**
- **Auditory**



Sensory Input

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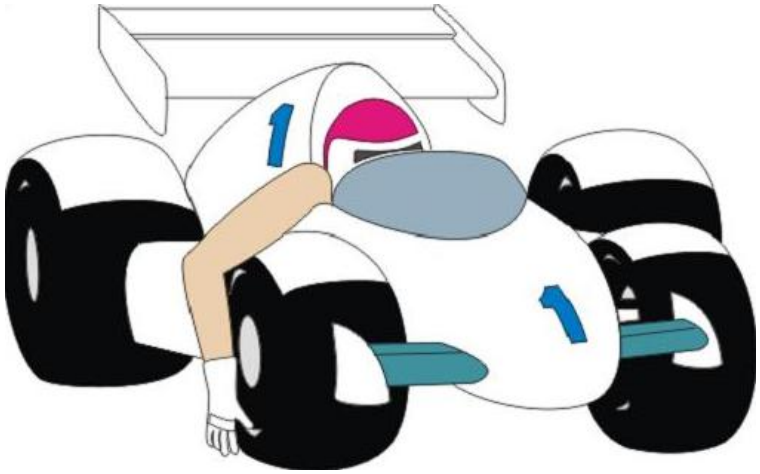
- **Traction Sensing: The ability to sense how much traction you have to work with.**
- **The better you are at soaking up sensory input, the more sensitive you will be to driving the limit.**



Q & A

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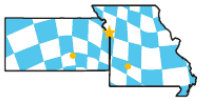

- **Questions?**
- **Problem areas?**

On-Track Objectives – #5

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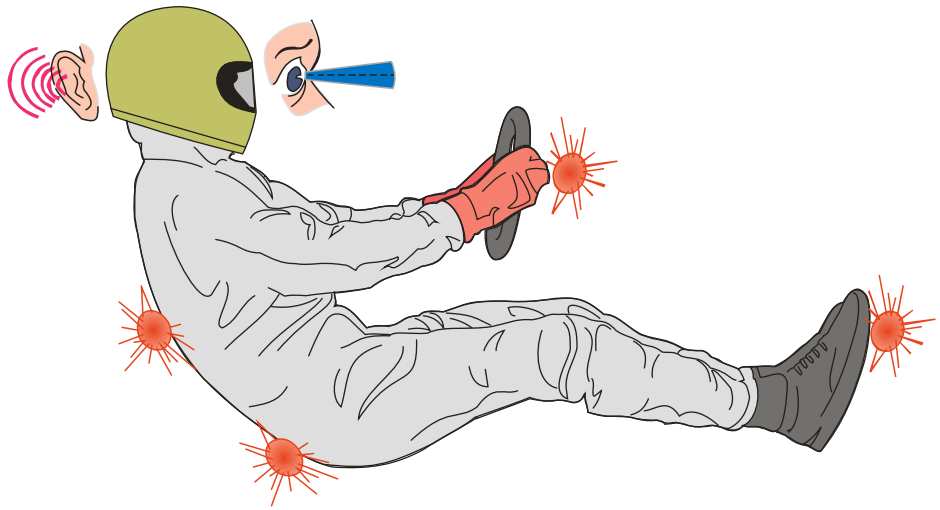
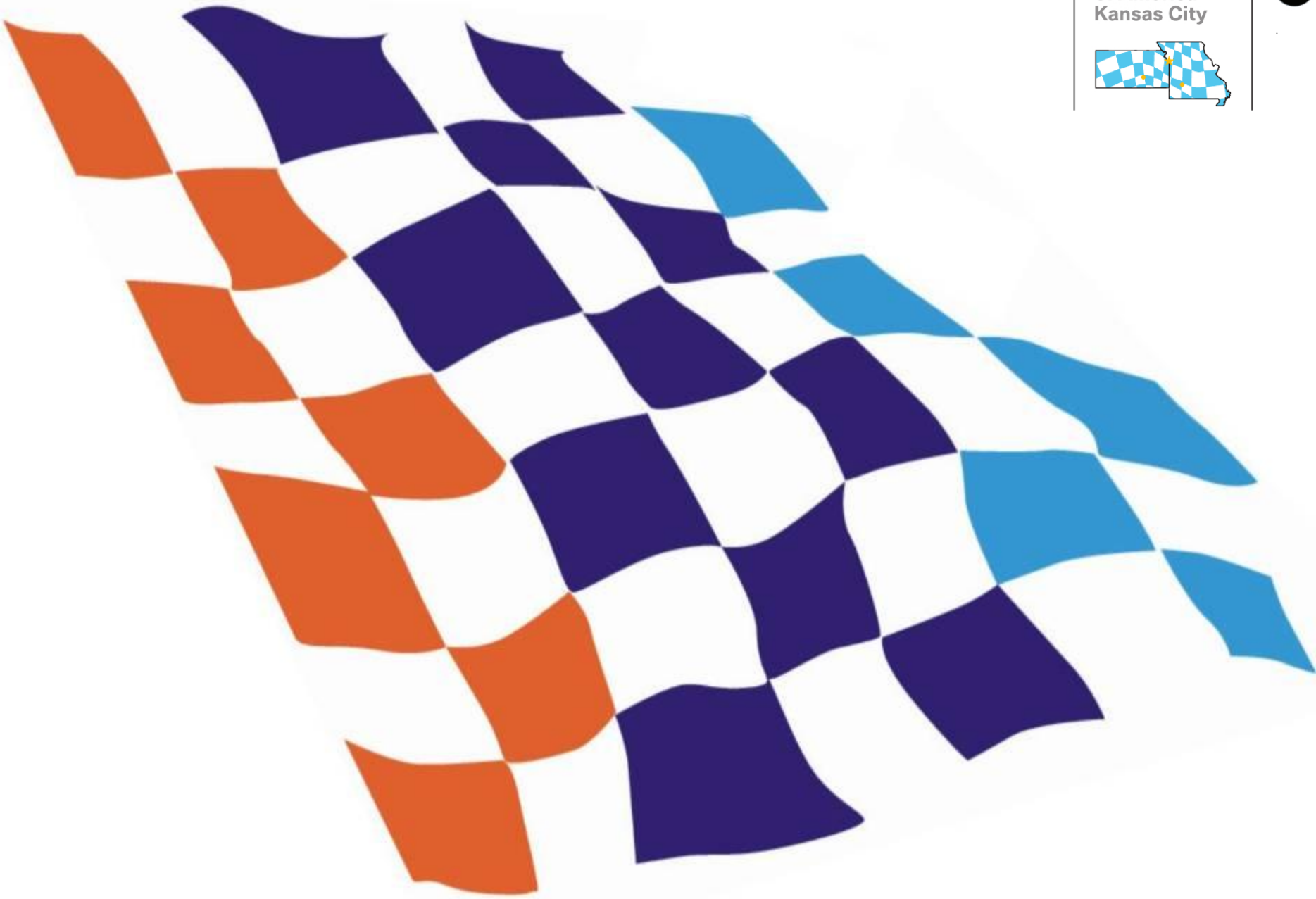
1. Soak up Visual info.
2. Soak up Kinesthetic info.
3. Soak up Auditory info.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