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RESEARCH INSTITUTE FOR SAFETY

60 YEARS
HELPING TO REDUCE
INJURIES AND DISABILITY

Panel 1: “What is Cognitive Distraction?”

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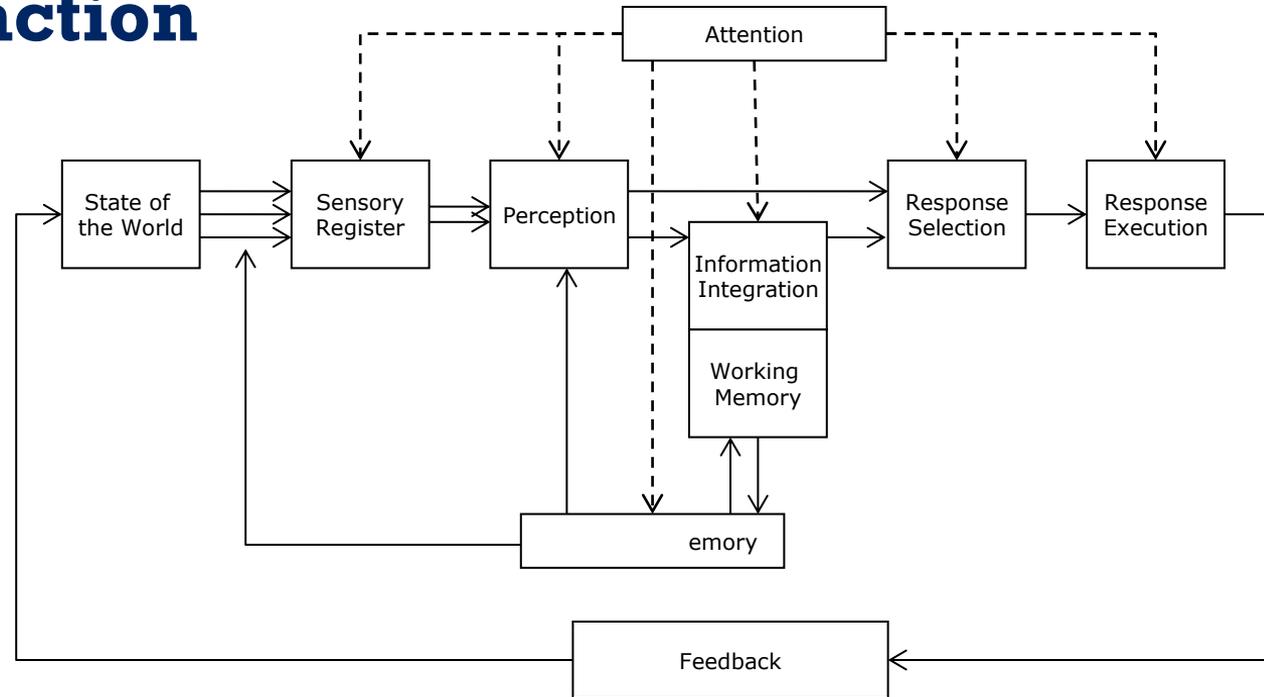
Cognitive Distraction

- What is Cognitive Distraction?
- Cognitive Load
 - Cornerstone of a great deal of basic and applied research
 - Reflection of the mobilization of attentional resources in support of different stages of information processing

Cognitive Distraction

Cognitive Load:

- Not a present or absent phenomenon
- Matter of degrees: relative level of load is more pertinent
- Visual vs. cognitive is not a meaningful distinction (per Bryan)
- Task-relevant or task-irrelevant



Cognitive Distraction

- Depends on context/situation, task demands, and many other factors
 - Effects on an individual driver and not a property of the task itself
- Impacts potential to perform and not necessarily performance per se

- So, Cognitive Distraction?
 - When cognitive/attentional resources are diverted away from critical driving tasks (per John)
 - A red-line for “distraction”?
 - Does *any* diversion of resources away from driving constitute distraction?

Cognitive Distraction

- Cognitive load/distraction can degrade driver's ability to correctly attend, interpret and respond to traffic demands
- Executive functions impacted early – lower level vehicle control functions buffered somewhat
 - Hazard anticipation and response versus lane keeping ability
- Strategic self-regulation with respect to planning and coordination of tasks
- Self-regulation occurring within a task (i.e., given task is being performed)
 - Car following versus tactical maneuvers

Challenges

- Defining and measurement of cognitive load (or reasonable proxies)
- Identifying meaningful thresholds for what constitutes distraction
- Considering plethora of contextual factors and individual differences
- Study of cognitive load in real-world situations
- ...

Thank You

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