Submitted by the expert of Japan

Informal Document: ACSF-04-14

Survey on the transition time from ACSF to Manual Driving

Toyota Motor Corporation

Experimental Condition

Purpose

To obtain the experimental data of the transition time from ACSF system to Manual driving. To set several conditions of the driver when ACSF on, including doing Sub-task.

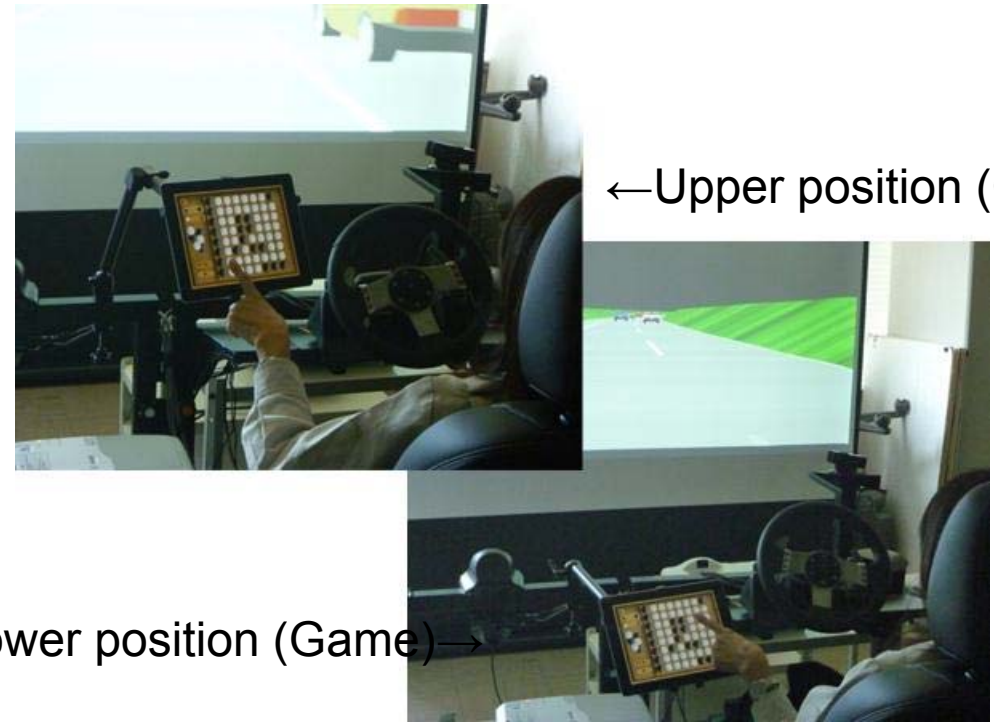
1. Experimental Set-up
   - Simple Driving Simulator (Fixed system with only front screen)
   - Sub-task : Watching a movie or playing a game to use the tablet PC.
   - Driver put his hands on knees during ACSF on.
   - Sudden Audible warning to inform the transition demand.

Experimental System

Experimental Condition

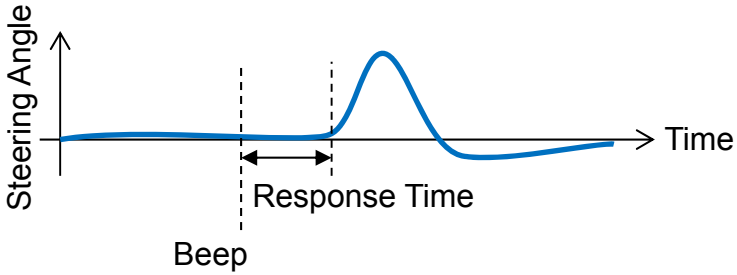
2. Driver's Condition
   - Sub-task : None, Watching a movie, Playing a game
   - Tablet PC's position
     : Upper (Left upper of Steering), Lower (near Driver's knee)
   - Warning : Beep sound

3. Driver's Response Time
   - From the start of Beep sound to Driver's steering input.



←Upper position (Game)

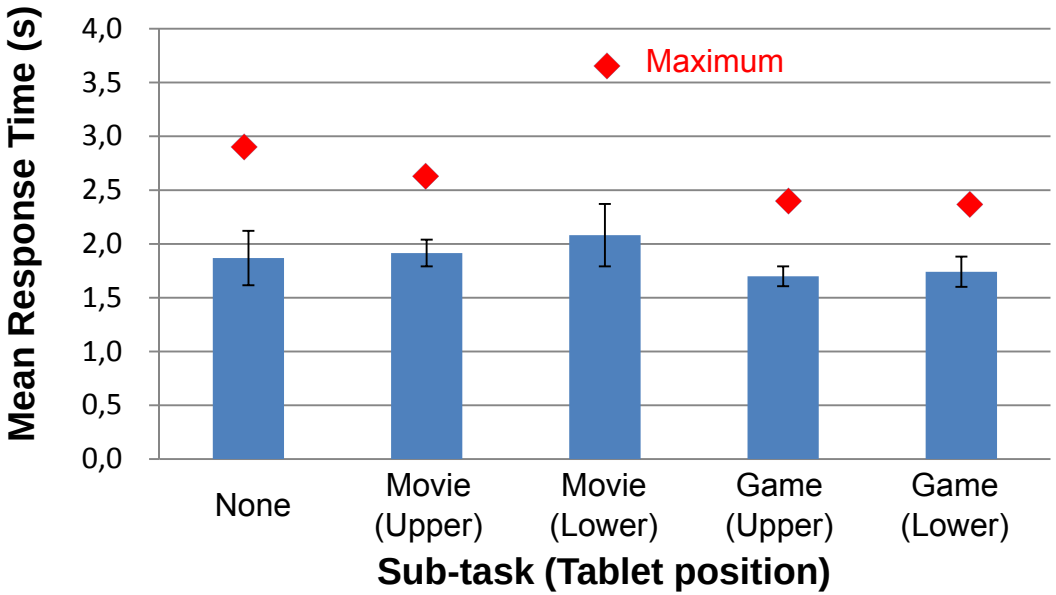
Lower position (Game)→



Results of Driver's response time

Results (10 panels)

Driver's response time is rather stable whether with Sub-task or without.



	Response Time (sec)				
Sub-task	None	Movie (U)	Movie (L)	Game (U)	Game (L)
Mean	1.9	1.9	2.1	1.7	1.7
Standard Deviation	0.25	0.12	0.29	0.09	0.14
Min.	1.4	1.5	1.3	1.5	1.2
Max.	2.9	2.6	3.6	2.4	2.4

Mean:1.9sec, Min:1.2sec, Max:3.6sec