

**APPENDIX O**

**RED-LINE AND YELLOW-LINE THRESHOLD RESULTS FOR**

**SPI-ALL TASKS**

Table O.1. Red-line and Yellow-line Thresholds for SPI-all tasks.

IVIS Tasks			Young Drivers									Middle Age Drivers									Older Drivers									All Drivers					
Presentation Format	Density Level		Red-line Threshold						Yellow-line Threshold			Red-line Threshold						Yellow-line Threshold			Red-line Threshold						Yellow-line Threshold			Red-line Threshold					
			Task skipped	Threshold exceeded	Total exceeded	Below threshold	Missing data	Total	Minimum speed	Max. steering velocity	Mirror glances	Task skipped	Threshold exceeded	Total exceeded	Below threshold	Missing data	Total	Minimum speed	Max. steering velocity	Mirror glances	Task skipped	Threshold exceeded	Total exceeded	Below threshold	Missing data	Total	Minimum speed	Max. steering velocity	Mirror glances	Task skipped	Threshold exceeded	Total exceeded	Below threshold	Missing data	Total
Table	L	# Subj.	0	5	5	5	2	12	0	X	X	0	5	5	7	0	12	0	X	X	1	6	7	5	0	12	1	X	1	1	16	17	17	2	36
		Prop.	.00	.42	.42	.42	.17	1.0				.00	.42	.42	.58	.00	1.0				.08	.50	.58	.42	.00	1.0	1	X	1	.03	.44	.47	.47	.06	1.0
	M	# Subj.	0	11	11	1	0	12	0	0	0	0	8	8	4	0	12	X	X	X	5	4	9	3	0	12	5	X	5	5	23	28	8	0	36
		Prop.	.00	.92	.92	.08	.00	1.0				.00	.67	.67	.33	.00	1.0				.42	.33	.75	.25	.00	1.0				.14	.64	.78	.22	.00	1.0
	H	# Subj.	10	0	10	2	0	12	10 <sup>#</sup>	10 <sup>#</sup>	10 <sup>#</sup>	7	3	10	2	0	12	7 <sup>#</sup>	7 <sup>#</sup>	7 <sup>#</sup>	9	2	11	1	0	12	9 <sup>#</sup>	9 <sup>#</sup>	9 <sup>#</sup>	26	5	31	5	0	36
		Prop.	.83	.00	.83	.17	.00	1.0				.58	.25	.83	.17	.00	1.0				.75	.17	.92	.08	.00	1.0				.72	.14	.86	.14	.00	1.0
Paragraph	L	# Subj.	1	6	7	5	0	12	1	X	1	0	8	8	3	1	12	0	X	0	2	9	11	0	1	12	X	X	X	3	23	26	8	2	36
		Prop.	.08	.50	.58	.42	.00	1.0				.00	.67	.67	.25	.08	1.0				.17	.75	.92	.00	.08	1.0				.08	.64	.72	.22	.06	1.0
	M	# Subj.	6	6	12	0	0	12	6	6	X	5	5	10	2	0	12	5	5	X	12	0	12	0	0	12	12 <sup>#</sup>	12 <sup>#</sup>	12 <sup>#</sup>	23	11	34	2	0	36
		Prop.	.50	.50	1.0	.00	.00	1.0				.42	.42	.83	.17	.00	1.0				1.0	.00	1.0	.00	.00	1.0				.64	.31	.94	.06	.00	1.0
	H	# Subj.	12	0	12	0	0	12	12 <sup>#</sup>	12 <sup>#</sup>	12 <sup>#</sup>	10	2	12	0	0	12	10 <sup>#</sup>	10 <sup>#</sup>	10 <sup>#</sup>	12	0	12	0	0	12	12 <sup>#</sup>	12 <sup>#</sup>	12 <sup>#</sup>	34	2	36	0	0	36
		Prop.	1.0	.00	1.0	.00	.00	1.0				.83	.17	1.0	.00	.00	1.0				1.0	.00	1.0	.00	.00	1.0				.94	.06	1.0	.00	.00	1.0

**Table O.2. Proportion of drivers from all age groups combined who exceeded the Red-line Threshold for SPI-all tasks.**

IVIS Tasks			Skipped Tasks			Number of Eye Glances					Peak Eye Glance Length					Task Completion Time					Lane Deviations			
Presentation Format	Density Level		Not presented, safety concern	Not presented, below red-line	Skipped by driver	1 - 4 glances	5 - 8 glances	9+ glances	Missing data	Total	Less than or equal to 2.0	2.0 > secs. ≤ 2.5	Greater than 2.5 secs.	Missing data	Total	Greater than 13 secs.	13 > secs. ≤ 20	Greater than 20 secs.	Missing data	Total	No deviations	1+ deviations	Missing data	Total
Table	L	#Subj.	0	2	1	6	15	9	3	36	20	5	5	3	36	20	8	3	2	36	27	4	2	36
		Prop.	0.00	0.06	0.03	0.17	0.42	0.25	0.08	1.00	0.56	0.14	0.14	0.08	1.00	0.56	0.22	0.08	0.06	1.00	0.75	0.11	0.06	1.00
	M	#Subj.	3	1	2	0	11	18	1	36	24	3	2	1	36	6	11	13	0	36	27	3	0	36
		Prop.	0.08	0.03	0.06	0.00	0.31	0.50	0.03	1.00	0.67	0.08	0.06	0.03	1.00	0.17	0.31	0.36	0.00	1.00	0.75	0.08	0.00	1.00
	H	#Subj.	25	0	1	0	5	4	1	36	4	5	0	1	36	4	2	4	0	36	10	0	0	36
		Prop.	0.69	0.00	0.03	0.00	0.14	0.11	0.03	1.00	0.11	0.14	0.00	0.03	1.00	0.11	0.06	0.11	0.00	1.00	0.28	0.00	0.00	1.00
Paragraph	L	#Subj.	0	1	3	3	9	17	3	36	21	2	6	3	36	10	8	12	2	36	25	5	2	36
		Prop.	0.00	0.03	0.08	0.08	0.25	0.47	0.08	1.00	0.58	0.06	0.17	0.08	1.00	0.28	0.22	0.33	0.06	1.00	0.69	0.14	0.06	1.00
	M	#Subj.	14	0	9	0	2	10	1	36	7	2	3	1	36	0	4	9	0	36	11	2	0	36
		Prop.	0.39	0.00	0.25	0.00	0.06	0.28	0.03	1.00	0.19	0.06	0.08	0.03	1.00	0.00	0.11	0.25	0.00	1.00	0.31	0.06	0.00	1.00
	H	#Subj.	31	0	3	0	1	1	0	36	0	1	1	0	36	0	0	2	0	36	2	0	0	36
		Prop.	0.86	0.00	0.08	0.00	0.03	0.03	0.00	1.00	0.00	0.03	0.03	0.00	1.00	0.00	0.00	0.06	0.00	1.00	0.06	0.00	0.00	1.00

**Table O.3. Proportion of younger drivers who exceeded the Red-line Threshold for SPI-all tasks.**

IVIS Tasks			Skipped Tasks			Number of Eye Glances					Peak Eye Glance Length					Task Completion Time					Lane Deviations			
Presentation Format	Density Level		Not presented, safety concern	Not presented, below red-line	Skipped by driver	1 - 4 glances	5 - 8 glances	9+ glances	Missing data	Total	Less than or equal to 2.0	2.0 > secs. ≤ 2.5	Greater than 2.5 secs.	Missing data	Total	Greater than 13 secs.	13 > secs. ≤ 20	Greater than 20 secs.	Missing data	Total	No deviations	1+ deviations	Missing data	Total
Table	L	#Subj.	0	1	0	0	5	4	2	12	7	0	2	2	12	6	3	0	2	12	8	1	2	12
		Prop.	0.00	0.08	0.00	0.00	0.42	0.33	0.17	1.00	0.58	0.00	0.17	0.17	1.00	0.50	0.25	0.00	0.17	1.00	0.67	0.08	0.17	1.00
	M	#Subj.	0	1	0	0	1	10	0	12	11	0	0	0	12	1	4	6	0	12	11	0	0	12
		Prop.	0.00	0.08	0.00	0.00	0.08	0.83	0.00	1.00	0.92	0.00	0.00	0.00	1.00	0.08	0.33	0.50	0.00	1.00	0.92	0.00	0.00	1.00
	H	#Subj.	10	0	0	0	2	0	0	12	2	0	0	0	12	2	0	0	0	12	2	0	0	12
		Prop.	0.83	0.00	0.00	0.00	0.17	0.00	0.00	1.00	0.17	0.00	0.00	0.00	1.00	0.17	0.00	0.00	0.00	1.00	0.17	0.00	0.00	1.00
Paragraph	L	#Subj.	0	0	1	2	4	5	0	12	9	1	1	0	12	5	3	3	0	12	10	1	0	12
		Prop.	0.00	0.00	0.08	0.17	0.33	0.42	0.00	1.00	0.75	0.08	0.08	0.00	1.00	0.42	0.25	0.25	0.00	1.00	0.83	0.08	0.00	1.00
	M	#Subj.	3	0	3	0	0	5	1	12	3	1	1	1	12	0	2	4	0	12	5	1	0	12
		Prop.	0.25	0.00	0.25	0.00	0.00	0.42	0.08	1.00	0.25	0.08	0.08	0.08	1.00	0.00	0.17	0.33	0.00	1.00	0.42	0.08	0.00	1.00
	H	#Subj.	11	0	1	0	0	0	0	12	0	0	0	0	12	0	0	0	0	12	0	0	0	12
		Prop.	0.92	0.00	0.08	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00

**Table O.4. Proportion of middle age drivers who exceeded the Red-line Threshold for SPI-all tasks.**

IVIS Tasks			Skipped Tasks			Number of Eye Glances					Peak Eye Glance Length					Task Completion Time					Lane Deviations			
Presentation Format	Density Level		Not presented, safety concern	Not presented, below red-line	Skipped by driver	1 - 4 glances	5 - 8 glances	9 <sup>+</sup> glances	Missing data	Total	Less than or equal to 2.0	2.0 > secs. ≤ 2.5	Greater than 2.5 secs.	Missing data	Total	Greater than 13 secs.	13 > secs. ≤ 20	Greater than 20 secs.	Missing data	Total	No deviations	1 <sup>+</sup> deviations	Missing data	Total
Table	L	#Subj.	0	0	0	6	4	1	1	12	6	2	3	1	12	10	1	1	0	12	11	1	0	12
		Prop.	0.00	0.00	0.00	0.50	0.33	0.08	0.08	1.00	0.50	0.17	0.25	0.08	1.00	0.83	0.08	0.08	0.00	1.00	0.92	0.08	0.00	1.00
	M	#Subj.	0	0	0	0	6	5	1	12	7	2	2	1	12	2	5	5	0	12	11	1	0	12
		Prop.	0.00	0.00	0.00	0.00	0.50	0.42	0.08	1.00	0.58	0.17	0.17	0.08	1.00	0.17	0.42	0.42	0.00	1.00	0.92	0.08	0.00	1.00
	H	#Subj.	7	0	0	0	2	2	1	12	1	3	0	1	12	1	2	2	0	12	5	0	0	12
		Prop.	0.58	0.00	0.00	0.00	0.17	0.17	0.08	1.00	0.08	0.25	0.00	0.08	1.00	0.08	0.17	0.17	0.00	1.00	0.42	0.00	0.00	1.00
Paragraph	L	#Subj.	0	1	0	0	5	4	2	12	7	0	2	2	12	4	4	2	1	12	9	1	1	12
		Prop.	0.00	0.08	0.00	0.00	0.42	0.33	0.17	1.00	0.58	0.00	0.17	0.17	1.00	0.33	0.33	0.17	0.08	1.00	0.75	0.08	0.08	1.00
	M	#Subj.	1	0	4	0	2	5	0	12	4	1	2	0	12	0	2	5	0	12	6	1	0	12
		Prop.	0.08	0.00	0.33	0.00	0.17	0.42	0.00	1.00	0.33	0.08	0.17	0.00	1.00	0.00	0.17	0.42	0.00	1.00	0.50	0.08	0.00	1.00
	H	#Subj.	9	0	1	0	1	1	0	12	0	1	1	0	12	0	0	2	0	12	2	0	0	12
		Prop.	0.75	0.00	0.08	0.00	0.08	0.08	0.00	1.00	0.00	0.08	0.08	0.00	1.00	0.00	0.00	0.17	0.00	1.00	0.17	0.00	0.00	1.00

**Table O.5. Proportion of older drivers who exceeded the Red-line Threshold for SPI-all tasks.**

IVIS Tasks			Skipped Tasks			Number of Eye Glances					Peak Eye Glance Length					Task Completion Time					Lane Deviations			
Presentation Format	Density Level		Not presented, safety concern	Not presented, below red-line	Skipped by driver	1 - 4 glances	5 - 8 glances	9+ glances	Missing data	Total	Less than or equal to 2.0	2.0 > secs. ≤ 2.5	Greater than 2.5 secs.	Missing data	Total	Greater than 13 secs.	13 > secs. ≤ 20	Greater than 20 secs.	Missing data	Total	No deviations	1+ deviations	Missing data	Total
Table	L	#Subj.	0	1	1	0	6	4	0	12	7	3	0	0	12	4	4	2	0	12	8	2	0	12
		Prop.	0.00	0.08	0.08	0.00	0.50	0.33	0.00	1.00	0.58	0.25	0.00	0.00	1.00	0.33	0.33	0.17	0.00	1.00	0.67	0.17	0.00	1.00
	M	#Subj.	3	0	2	0	4	3	0	12	6	1	0	0	12	3	2	2	0	12	5	2	0	12
		Prop.	0.25	0.00	0.17	0.00	0.33	0.25	0.00	1.00	0.50	0.08	0.00	0.00	1.00	0.25	0.17	0.17	0.00	1.00	0.42	0.17	0.00	1.00
	H	#Subj.	8	0	1	0	1	2	0	12	1	2	0	0	12	1	0	2	0	12	3	0	0	12
		Prop.	0.67	0.00	0.08	0.00	0.08	0.17	0.00	1.00	0.08	0.17	0.00	0.00	1.00	0.08	0.00	0.17	0.00	1.00	0.25	0.00	0.00	1.00
Paragraph	L	#Subj.	0	0	2	1	0	8	1	12	5	1	3	1	12	1	1	7	1	12	6	3	1	12
		Prop.	0.00	0.00	0.17	0.08	0.00	0.67	0.08	1.00	0.42	0.08	0.25	0.08	1.00	0.08	0.08	0.58	0.08	1.00	0.50	0.25	0.08	1.00
	M	#Subj.	10	0	2	0	0	0	0	12	0	0	0	0	12	0	0	0	0	12	0	0	0	12
		Prop.	0.83	0.00	0.17	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
	H	#Subj.	11	0	1	0	0	0	0	12	0	0	0	0	12	0	0	0	0	12	0	0	0	12
		Prop.	0.92	0.00	0.08	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00

**Table O.6. Paired T value results for Yellow-line Thresholds for SPI-all, paragraph format tasks.**

		Variable	N	Mean	Std. Error	T value	P value
<b>Low (3x2)</b>	<b>Young</b>	MNSPEED	11	0.41	1.70	0.24	0.81
		MXSTER	11	-6.79	2.18	-3.11	0.01
		NMIRROR	11	0.64	0.33	1.93	0.08
	<b>Middle Age</b>	MNSPEED	10	2.06	1.58	1.30	0.22
		MXSTER	10	-12.26	4.65	-2.64	0.03
		NMIRROR	9	1.06	0.60	1.77	0.11
	<b>Older</b>	MNSPEED	9	4.32	1.54	2.81	0.02
		MXSTER	9	-18.50	4.65	-3.98	0.00
		NMIRROR	9	2.27	0.70	3.25	0.01
<b>Medium (3x3)</b>	<b>Young</b>	MNSPEED	6	2.07	1.28	1.61	0.17
		MXSTER	6	-15.55	6.79	-2.29	0.07
		NMIRROR	6	0.67	0.22	3.02	0.03
	<b>Middle Age</b>	MNSPEED	7	2.60	1.11	2.34	0.06
		MXSTER	7	-10.23	5.01	-2.04	0.09
		NMIRROR	7	2.25	0.87	2.58	0.04
	<b>Older</b>	MNSPEED	0	.	.	.	.
		MXSTER	0	.	.	.	.
		NMIRROR	0	.	.	.	.
<b>High (5x4)</b>	<b>Young</b>	MNSPEED	0	.	.	.	.
		MXSTER	0	.	.	.	.
		NMIRROR	0	.	.	.	.
	<b>Middle Age</b>	MNSPEED	2	.	.	.	.
		MXSTER	2	.	.	.	.
		NMIRROR	2	.	.	.	.
	<b>Older</b>	MNSPEED	0	.	.	.	.
		MXSTER	0	.	.	.	.
		NMIRROR	0	.	.	.	.

**Table O.7. Paired T value results for Yellow-line Thresholds for SPI-all, table format tasks.**

		Variable	N	Mean	Std. Error	T value	P value
<b>Low (3x2)</b>	<b>Young</b>	MNSPEED	9	-0.28	1.22	-0.23	0.82
		MXSTER	9	-6.93	2.14	-3.23	0.01
		NMIRROR	9	0.81	0.33	2.44	0.04
	<b>Middle Age</b>	MNSPEED	12	1.08	1.15	0.93	0.37
		MXSTER	12	-5.53	2.10	-2.63	0.02
		NMIRROR	11	0.70	0.17	4.04	0.00
	<b>Older</b>	MNSPEED	10	2.94	1.41	2.09	0.07
		MXSTER	10	-11.6	2.10	-5.54	0.00
		NMIRROR	10	0.87	0.59	1.48	0.17
<b>Medium (3x3)</b>	<b>Young</b>	MNSPEED	11	2.81	1.28	2.19	0.05
		MXSTER	11	-7.89	3.98	-1.98	0.08
		NMIRROR	11	1.11	0.61	1.83	0.10
	<b>Middle Age</b>	MNSPEED	12	3.60	1.52	2.37	0.04
		MXSTER	12	-8.84	2.71	-3.26	0.01
		NMIRROR	11	1.50	0.59	2.54	0.03
	<b>Older</b>	MNSPEED	7	1.54	0.95	1.62	0.16
		MXSTER	7	-17.0	5.05	-3.36	0.02
		NMIRROR	7	0.67	0.43	1.57	0.17
<b>High (5x4)</b>	<b>Young</b>	MNSPEED	2	.	.	.	.
		MXSTER	2	.	.	.	.
		NMIRROR	2	.	.	.	.
	<b>Middle Age</b>	MNSPEED	5	.	.	.	.
		MXSTER	5	.	.	.	.
		NMIRROR	4	.	.	.	.
	<b>Older</b>	MNSPEED	3	.	.	.	.
		MXSTER	3	.	.	.	.
		NMIRROR	3	.	.	.	.