Canada Study Phase 1 results

Comparisons of NO FEEDBACK and FEEDBACK conditions

Table 2: CoPilot, SafeTRAC, AP+ Outcomes
Descriptive Comparisons of Changes in Unweighted Means or Standard Deviations

	N	No Feedback Mean	Feedback Mean	Difference Mean	Difference SD	Difference Min	Difference Max	Difference p-value
Outcome variables								
CoPilot PERCLOS in night hours	16	6.65	5.03	-1.63	3.85	-10.52	2.80	0.112
SafeTRAC Driver Alertness	18	82.58	81.80	-0.78	1.94	-4.93	2.32	0.107
AP+ Lateral distance standard deviation	18	32.41	31.88	-0.53	2.74	-4.66	5.03	0.424
AP+ Steering wheel movements SD	19	3.21	2.31	-0.90	4.09	-14.24	3.95	0.349
AP+ Front wheel movements SD	14	3.27	3.05	-0.22	1.13	-3.58	1.09	0.485
AP+ Variables								
Vehicle speed mean	20	57.01	57.60	0.59	1.62	-2.68	3.72	0.119
Engine rotation mean	20	1478.3	1489.2	10.9	28.3	-34.0	74.5	0.103
X acceleration mean	20	0.136	0.118	-0.018	0.155	-0.586	0.329	0.603
Y acceleration mean	20	-0.126	-0.158	-0.032	0.151	-0.653	0.133	0.354
Ambient light mean	19	101.84	115.86	14.02	30.00	-20.90	123.04	0.057

Canada Study Phase 1 results

Comparisons of NO FEEDBACK and FEEDBACK conditions

Table 3: CoPilot, SafeTRAC, and AP+ Outcomes
Mixed Model ANOVA Comparisons Based on Doubly-Weighted Means or SD's

	N	No Feedback Mean	Feedback Mean	Difference Mean	Difference SE	t-statistic	Difference p-value
Outcome variables							
CoPilot PERCLOS in night hours	16	6.58	4.99	-1.60	0.89	-1.79	0.094
SafeTRAC Driver Alertness	18	82.42	82.18	-0.24	0.47	-0.50	0.620
AP+ Lateral distance standard deviation	18	30.02	29.92	-0.10	0.78	-0.12	0.903
AP+ Steering wheel movements SD	19	2.75	1.97	-0.78	0.85	-0.92	0.372
AP+ Front Wheel movements SD	14	3.10	3.00	-0.09	0.26	-0.35	0.733
AP+ variables							
Vehicle speed mean	20	57.79	58.12	0.33	0.28	1.18	0.252
Engine rotation mean	20	1488.7	1495.0	6.3	4.3	1.5	0.157
X acceleration mean	20	0.129	0.128	-0.001	0.036	-0.020	0.988
Y acceleration mean	20	-0.119	-0.180	-0.061	0.045	-1.350	0.192
Ambient light mean	19	106.53	114.25	7.73	4.49	1.72	0.103

Notes: Mean values and difference in mean values are model-predicted least squares estimates.

Canada Study Phase 1 results

Comparisons of NO FEEDBACK and FEEDBACK conditions

Table 4: CoPilot, SafeTRAC, and AP+ Outcomes

Descriptive Comparisons of Changes in Unweighted Medians or Interquartile Ranges (IQR)

	N	No Feedback Mean	Fedback Mean	Difference Mean	Difference SD	Difference Min	Difference Max	Difference p-value
Outcome variables								
CoPilot PERCLOS in night hours	16	3.88	3.00	-0.88	2.31	-7.00	3.00	0.150
SafeTRAC Driver Alertness	18	83.78	82.39	-1.39	2.12	-6.00	1.00	0.013
AP+ Lateral distance IQR	18	31.56	31.22	-0.33	3.16	-6.00	6.00	0.660
AP+ Steering wheel movements IQR	19	3.89	2.89	-1.00	6.53	-22.00	10.00	0.513
AP+ Front Wheel movements IQR	14	4.21	3.71	-0.50	2.10	-6.00	2.00	0.390
AP+ variables								
Vehicle speed median	20	60.70	60.95	0.25	1.11	-2.48	3.10	0.330
Engine rotation median	20	1532.0	1538.0	6.0	19.6	-20.0	60.0	0.186
X acceleration median	20	0.129	0.109	-0.020	0.197	-0.740	0.440	0.664
Y acceleration median	20	-0.118	-0.157	-0.040	0.198	-0.860	0.160	0.384
Ambient light median	19	128.95	145.05	16.11	44.99	-3.00	149.00	0.136

Canada Study Phase 1 results

Comparisons of NO FEEDBACK and FEEDBACK conditions

Table 5: CoPilot, SafeTRAC, and AP+ Outcomes
Mixed Model ANOVA Comparisons Based on Doubly-Weighted Medians or IQR's

	N	No Feedback Mean	Feedback Mean	Difference Mean	Difference SE	t-statistic	Difference p-value
Outcome variables							
CoPilot PERCLOS in night hours	16	3.73	3.16	-0.57	0.41	-1.38	0.187
SafeTRAC Driver Alertness	18	83.86	82.53	-1.33	0.41	-3.24	0.005
AP+ Lateral distance IQR	18	30.26	30.49	0.23	0.83	0.27	0.788
AP+ Steering wheel movements IQR	19	3.53	2.17	-1.36	1.25	-1.09	0.290
AP+ Front Wheel movements IQR	14	3.66	3.67	0.01	0.38	0.02	0.985
AP+ variables							
Vehicle speed median	20	61.14	61.21	0.07	0.19	0.36	0.726
Engine rotation median	20	1537.8	1541.1	3.3	3.3	1.0	0.331
X acceleration median	20	0.121	0.122	0.001	0.046	0.020	0.985
Y acceleration median	20	-0.109	-0.186	-0.077	0.058	-1.330	0.199
Ambient light median	19	136.54	144.13	7.59	6.51	1.17	0.259

Notes: Mean values and difference in mean values are model-predicted least squares estimates.

Canada Study Phase 1 results

Table 6: Total Durations Used as Weighting Factors in Mixed Model ANOVA

Outcomes	PERCLOS Camera		Lateral distance		Driver's Alertness		Steering wheel movements		Front Wheel movements		Vehicle speed		Engine rotation		X acceleration		Y acceleration		Ambient light	
Feedback	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
SID																				
1	.	.	35.8	17.9	36.5	18.4	36.5	18.4	.	.	36.5	18.4	36.5	18.4	36.5	18.4	36.5	18.4	36.5	18.4
2	9.7	22.8	46.3	69.2	48.7	70.1	48.7	70.1	.	.	48.7	70.1	48.7	70.1	48.7	70.1	48.7	70.1	48.7	70.1
4	3.9	5.1	65.4	61.6	67.0	62.5	67.0	62.5	.	.	67.0	62.5	67.0	62.5	67.0	62.5	67.0	62.5	67.0	62.5
5	7.9	1.1	24.8	8.0	25.2	8.0	25.2	8.0	25.2	8.0	25.2	8.0	25.2	8.0	25.2	8.0	25.2	8.0	25.2	8.0
6	10.9	4.6	21.5	12.5	21.6	12.6	21.6	12.6	.	.	21.6	12.6	21.6	12.6	21.6	12.6	21.6	12.6	21.6	12.6
7	15.9	16.7	37.3	41.9	39.3	42.7	39.3	42.7	.	.	39.3	42.7	39.3	42.7	39.3	42.7	39.3	42.7	39.3	42.7
8	10.0	5.6	40.5	37.3	41.7	37.6	41.7	37.6	41.7	37.6	41.7	37.6	41.7	37.6	41.7	37.6	41.7	37.6	41.7	37.6
10	16.8	18.7	90.9	95.7	97.9	96.6	97.9	96.6	97.9	96.6	97.9	96.6	97.9	96.6	97.9	96.6	97.9	96.6	97.9	96.6
11	7.4	10.0	.	.	.	.	7.4	53.1	.	.	7.4	53.1	7.4	53.1	7.4	53.1	7.4	53.1	7.4	53.1
12	0.3	.	4.8	21.9	4.8	22.0	4.8	22.0	4.8	22.0	4.8	22.0	4.8	22.0	4.8	22.0	4.8	22.0	4.8	22.0
13	.	.	.	.	.	.	50.4	47.1	50.4	47.1	50.4	47.1	50.4	47.1	50.4	47.1	50.4	47.1	.	.
15	10.5	11.7	67.0	73.4	68.3	75.2	68.3	75.2	68.3	75.2	68.3	75.2	68.3	75.2	68.3	75.2	68.3	75.2	68.3	75.2
17	3.2	.	23.3	8.6	23.6	8.6	23.6	8.6	23.6	8.6	23.6	8.6	23.6	8.6	23.6	8.6	23.6	8.6	23.6	8.6
18	30.8	8.4	121.8	55.3	126.8	59.1	126.8	59.1	126.8	59.1	126.8	59.1	126.8	59.1	126.8	59.1	126.8	59.1	126.8	59.1
19	3.3	1.5	7.6	7.1	7.7	7.2	7.7	7.2	7.7	7.2	7.7	7.2	7.7	7.2	7.7	7.2	7.7	7.2	7.7	7.2
21	18.1	28.3	63.9	71.2	64.4	72.6	64.4	72.6	64.4	72.6	64.4	72.6	64.4	72.6	64.4	72.6	64.4	72.6	64.4	72.6
22	8.6	13.7	59.9	55.1	64.9	57.2	64.9	57.2	64.9	57.2	64.9	57.2	64.9	57.2	64.9	57.2	64.9	57.2	64.9	57.2
23	1.1	2.6	5.5	7.7	5.7	7.9	.	.	5.7	7.9	5.7	7.9	5.7	7.9	5.7	7.9	5.7	7.9	5.7	7.9
25	8.3	15.8	33.4	46.4	34.2	47.6	34.2	47.6	34.2	47.6	34.2	47.6	34.2	47.6	34.2	47.6	34.2	47.6	34.2	47.6
26	30.3	11.5	75.3	27.8	81.1	28.3	81.1	28.3	81.1	28.3	81.1	28.3	81.1	28.3	81.1	28.3	81.1	28.3	81.1	28.3
Mean	10.9	11.1	45.8	39.9	47.7	40.8	48.0	43.5	49.8	41.1	45.9	41.7	45.9	41.7	45.9	41.7	45.9	41.7	45.6	41.4

Canada Study Phase 1 results

Comparisons of NO FEEDBACK and FEEDBACK conditions

Table 7: CoPilot, SafeTRAC, and AP+ Outcomes at Night

Descriptive Comparisons of Changes in Unweighted Means or Standard Deviations

	N	No Feedback Mean	Feedback Mean	Difference Mean	Difference SD	Difference Min	Difference Max	Difference p-value
Outcome variables								
CoPilot PERCLOS in night hours	16	6.65	5.03	-1.63	3.85	-10.52	2.80	0.112
SafeTRAC Driver Alertness	15	78.82	78.94	0.13	3.68	-6.52	7.12	0.894
AP+ Lateral distance standard deviation	15	33.71	32.13	-1.58	4.62	-12.14	4.49	0.207
AP+ Steering wheel movements SD	15	1.86	1.78	-0.09	1.36	-4.55	1.35	0.811
AP+ Front Wheel movements SD	11	3.06	2.73	-0.33	1.20	-3.47	1.11	0.381
AP+ variables								
Vehicle speed	16	57.63	57.72	0.09	2.17	-3.92	4.41	0.868
Engine rotation	16	1487.04	1488.81	1.779	34.621	-50.558	65.573	0.840
X acceleration	16	0.162	0.135	-0.027	0.199	-0.686	0.345	0.593
Y acceleration	16	-0.176	-0.217	-0.041	0.179	-0.690	0.156	0.372
Ambient light	16	3.45	5.19	1.74	3.97	-3.57	13.92	0.100

Canada Study Phase 1 results

Comparisons of NO FEEDBACK and FEEDBACK conditions

Table 8: CoPilot, SafeTRAC, and AP+ Outcomes at Night
Mixed Model ANOVA Comparisons Based on Doubly-Weighted Means or SD's

	N	No Feedback Mean	Feedback Mean	Difference Mean	Difference SE	t-statistic	Difference p-value
Outcome variables							
CoPilot (PERCLOS) in night hours	16	6.58	4.99	-1.60	0.89	-1.79	0.094
SafeTRAC Driver Alertness	15	79.27	79.33	0.06	0.96	0.07	0.948
AP+ Lateral distance standard deviation	15	31.95	30.17	-1.78	1.25	-1.42	0.178
AP+ Steering wheel movements SD	15	1.69	1.81	0.13	0.21	0.63	0.542
AP+ Front Wheel movements SD	11	2.96	2.83	-0.13	0.29	-0.44	0.671
AP+ variables							
Vehicle speed mean	16	57.71	57.94	0.23	0.45	0.51	0.621
Engine rotation mean	16	1487.350	1492.620	5.271	7.524	0.700	0.494
X acceleration mean	16	0.162	0.133	-0.029	0.049	-0.600	0.560
Y acceleration mean	16	-0.169	-0.223	-0.054	0.049	-1.100	0.290
Ambient light mean	16	3.47	5.67	2.19	0.88	2.49	0.025

Notes: Mean values and difference in mean values are model-predicted least squares estimates.

Canada Study Phase 1 results

Comparisons of NO FEEDBACK and FEEDBACK conditions

Table 9: CoPilot, SafeTRAC, and AP+ Outcomes at Night
Descriptive Comparisons of Changes in Unweighted Medians or Interquartile Ranges

	N	No Feedback Mean	Feedback Mean	Difference Mean	Difference SD	Difference Min	Difference Max	Difference p-value
Outcome variables								
CoPilot (PERCLOS) in night hours	16	3.88	3.00	-0.88	2.31	-7.00	3.00	0.150
SafeTRAC Driver Alertness	15	79.13	79.60	0.47	4.70	-8.00	8.00	0.707
AP+ Lateral distance IQR	15	33.33	32.53	-0.80	5.54	-14.00	6.00	0.585
AP+ Steering wheel movements IQR	15	2.20	1.93	-0.27	1.67	-5.00	2.00	0.546
AP+ Front Wheel movements IQR	11	3.64	3.00	-0.64	2.38	-7.00	2.00	0.396
AP+ variables								
Vehicle speed median	16	60.61	60.45	-0.16	2.21	-6.20	5.58	0.783
Engine rotation median	16	1532.500	1530.000	-2.500	29.098	-60.000	80.000	0.736
X acceleration median	16	0.151	0.131	-0.021	0.226	-0.750	0.450	0.720
Y acceleration median	16	-0.168	-0.214	-0.047	0.223	-0.860	0.170	0.413
Ambient light median	16	0.50	3.19	2.69	5.20	0.00	15.00	0.056

Canada Study Phase 1 results

Comparisons of NO FEEDBACK and FEEDBACK conditions

Table 10: CoPilot, SafeTRAC, and AP+ Outcomes at Night
Mixed Model ANOVA Comparisons Based on Doubly-Weighted Medians or IQR's

	N	No Feedback Mean	Feedback Mean	Difference Mean	Difference SE	t-statistic	Difference p-value
Outcome variables							
CoPilot (PERCLOS) in night hours	16	3.73	3.16	-0.57	0.41	-1.38	0.187
SafeTRAC Driver Alertness median	15	79.68	80.20	0.52	1.20	0.43	0.672
AP+ Lateral distance IQR	15	32.55	31.30	-1.25	1.48	-0.84	0.413
AP+ Steering wheel movements IQR	15	2.05	2.27	0.22	0.28	0.77	0.455
AP+ Front Wheel movements IQR	11	3.54	3.36	-0.18	0.53	-0.34	0.739
AP+ variables							
Vehicle speed median	16	60.71	60.79	0.08	0.39	0.22	0.832
Engine rotation median	16	1531.270	1532.890	1.619	6.251	0.260	0.799
X acceleration median	16	0.150	0.127	-0.023	0.055	-0.420	0.684
Y acceleration median	16	-0.160	-0.223	-0.063	0.060	-1.050	0.311
Ambient light median	16	0.71	3.95	3.24	1.24	2.61	0.020

Notes: Mean values and difference in mean values are model-predicted least squares estimates.

Canada Study Phase 1 results

Table 11: Total Durations Used as Weighting Factors in Mixed Model ANOVA for Night Outcomes

Outcomes	PERCLOS Camera		Lateral distance		Driver's Alertness		Steering wheel movements		Front Wheel movements		Vehicle speed		Engine rotation		X acceleration		Y acceleration		Ambient light	
Feedback	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
SID																				
2	9.7	22.8	9.1	22.4	9.7	22.8	9.7	22.8	.	.	9.7	22.8	9.7	22.8	9.7	22.8	9.7	22.8	9.7	22.8
4	3.9	5.1	3.2	4.9	3.9	5.1	3.9	5.1	.	.	3.9	5.1	3.9	5.1	3.9	5.1	3.9	5.1	3.9	5.1
5	7.9	1.1	7.8	1.1	7.9	1.1	7.9	1.1	7.9	1.1	7.9	1.1	7.9	1.1	7.9	1.1	7.9	1.1	7.9	1.1
6	10.9	4.6	10.9	4.6	10.9	4.6	10.9	4.6	.	.	10.9	4.6	10.9	4.6	10.9	4.6	10.9	4.6	10.9	4.6
7	15.9	16.7	15.4	16.3	15.9	16.7	15.9	16.7	.	.	15.9	16.7	15.9	16.7	15.9	16.7	15.9	16.7	15.9	16.7
8	10.0	5.6	9.9	5.5	10.0	5.6	10.0	5.6	10.0	5.6	10.0	5.6	10.0	5.6	10.0	5.6	10.0	5.6	10.0	5.6
10	16.8	18.7	16.5	18.3	16.8	18.7	16.8	18.7	16.8	18.7	16.8	18.7	16.8	18.7	16.8	18.7	16.8	18.7	16.8	18.7
11	7.4	10.0	.	.	.	.	7.4	10.0	.	.	7.4	10.0	7.4	10.0	7.4	10.0	7.4	10.0	7.4	10.0
12	0.3	.	0.3	.	0.3	.	0.3	.	0.3	.	0.3	.	0.3	.	0.3	.	0.3	.	0.3	.
15	10.5	11.7	10.3	11.3	10.5	11.7	10.5	11.7	10.5	11.7	10.5	11.7	10.5	11.7	10.5	11.7	10.5	11.7	10.5	11.7
17	3.2	.	3.1	.	3.2	.	3.2	.	3.2	.	3.2	.	3.2	.	3.2	.	3.2	.	3.2	.
18	30.8	8.4	30.0	8.1	30.8	8.4	30.8	8.4	30.8	8.4	30.8	8.4	30.8	8.4	30.8	8.4	30.8	8.4	30.8	8.4
19	3.3	1.5	3.3	1.4	3.3	1.5	3.3	1.5	3.3	1.5	3.3	1.5	3.3	1.5	3.3	1.5	3.3	1.5	3.3	1.5
21	18.1	28.3	18.0	28.1	18.1	28.3	18.1	28.3	18.1	28.3	18.1	28.3	18.1	28.3	18.1	28.3	18.1	28.3	18.1	28.3
22	8.6	13.7	8.5	13.3	8.6	13.7	8.6	13.7	8.6	13.7	8.6	13.7	8.6	13.7	8.6	13.7	8.6	13.7	8.6	13.7
23	1.1	2.6	1.0	2.6	1.1	2.6	.	.	1.1	2.6	1.1	2.6	1.1	2.6	1.1	2.6	1.1	2.6	1.1	2.6
25	8.3	15.8	8.1	15.6	8.3	15.8	8.3	15.8	8.3	15.8	8.3	15.8	8.3	15.8	8.3	15.8	8.3	15.8	8.3	15.8
26	30.3	11.5	29.5	11.4	30.3	11.5	30.3	11.5	30.3	11.5	30.3	11.5	30.3	11.5	30.3	11.5	30.3	11.5	30.3	11.5
Mean	10.9	11.1	10.9	11.0	11.2	11.2	11.5	11.7	11.5	10.8	10.9	11.1	10.9	11.1	10.9	11.1	10.9	11.1	10.9	11.1

Canada Study Phase 1 results

Table 12: Psychomotor Vigilance Task (PVT)
Mixed Model ANOVA Predicted Mean Values by Condition and Time of Day

		Test for Time*FB	Day			Evening			Night			Main Effects[#]	
	ICC[&]	Interaction[^]	No FB	FB	p-value	No FB	FB	p-value	No FB	FB	p-value	FB	TOD
Total trials among 20 drivers			98	80		109	84		73	53			
Primary Variables													
Raw lapses (RT>500 ms)	0.473	**0.009**	1.95	3.89	**0.000**	1.66	2.30	0.052	2.51	2.34	0.332	---	---
Median response time	0.709	**0.051**	246.8	257.8	**0.003**	245.3	254.0	**0.009**	256.3	255.6	0.851	---	---
Post-PVT sleepiness	0.289	**0.039**	5.57	5.92	0.826	6.56	6.16	0.608	7.56	6.18	**0.009**	---	---
Secondary Variables													
Transformed lapses	0.508	**0.059**	2.57	3.30	**0.002**	2.32	2.60	0.103	2.71	2.66	0.453	---	---
Mean fastest 10% RT's	0.675	**0.058**	200.3	206.0	**0.015**	198.2	201.3	**0.043**	204.9	203.4	0.375	---	---
Mean slowest 10% 1/RT's	0.607	**0.088**	2.69	2.47	**0.004**	2.78	2.62	0.064	2.58	2.60	0.589	---	---
Total response errors	0.369	0.417	2.50	2.80	---	3.61	3.03	---	2.58	2.37	---	0.579	0.036
Reciprocol RT slope	0.121	0.806	-0.032	-0.037	---	-0.028	0.037	---	-0.040	-0.040	---	0.249	0.314
Grand mean RT	0.655	**0.023**	265.7	287.3	**0.001**	262.1	273.6	**0.012**	277.2	277.0	0.792	---	---
RT standard deviation	0.368	0.444	82.6	111.5	---	76.2	87.2	---	91.2	103.7	---	**0.016**	0.104
RT distribution asymmetry	0.195	0.592	0.216	0.225	---	0.209	0.205	---	0.208	0.202	---	0.954	0.186
Pre-PVT sleepiness	0.429	**0.019**	5.49	5.80	0.878	6.31	5.78	0.389	7.22	5.64	**0.017**	---	---

Notes:

[&] ICC Intraclass correlation controlling for time of day and feedback (FB) condition.

[^] Mixed model ANOVA test for interaction, if significant then feedback effects were assessed at each time of day interval.

[#] If interaction was not significant, it was removed and feedback and time of day effects were assessed as main effects.

Canada Study Phase 1 results

Comparisons of NO FEEDBACK and FEEDBACK conditions

Table 13: SleepWatch Actigraphic and Sleep Management Model Variables
Mixed Model ANOVA Fixed Effects (Predicted Means and Differences in Means)

	N	No Feedback Mean	Feedback Mean	Difference Mean	Difference SE	t-statistic	Difference p-value
Prior Sleep	20	387.83	392.33	4.50	9.03	0.500	0.6239
Sleep Episodes	20	1.382	1.354	-0.028	0.041	-0.680	0.5017
AMS (Actigraph Movement Score)	20	695.75	718.13	22.38	50.51	0.440	0.6627
Sleep Efficiency	20	86.32	85.94	-0.38	1.25	-0.300	0.7642
Sleep Performance Model (Max)	20	83.21	84.44	1.23	1.63	0.760	0.4591
Sleep Performance Model (Min)	20	63.42	65.63	2.21	1.83	1.210	0.2409

Notes: Mean values and difference in mean values are model-predicted least squares estimates.

Canada Study Phase 1 results

Intraclass Correlations Coefficients

Table 14: SleepWatch Actigraphic and Sleep Management Model Variables
Mixed Model ANOVA Fixed Effects (Predicted Means and Differences in Means)

	$\sigma^2_{(driver)}$	$\sigma^2_{(residual)}$	$\sigma^2_{(total)}$	ICC	p-value
Prior Sleep	2630.5	815.5	3446.0	0.763	0.004
Sleep Episodes	0.098	0.016	0.114	0.856	0.002
AMS (Actigraph Movement Score)	86637.4	25515.1	112152.5	0.772	0.004
Sleep Efficiency	7.6	15.7	23.2	0.326	0.088
Sleep Performance Model (Max)	153.0	26.5	179.5	0.852	0.002
Sleep Performance Model (Min)	125.4	33.3	158.7	0.790	0.003

Note: ICC is the proportion of total variance across drivers and days explained by systematic driver variance after removing variance explained by the no feedback and feedback conditions.

Canada Study Phase 1 results

Comparisons of NO FEEDBACK and FEEDBACK conditions

Table 15: Diary Data - Mean Cumulative Daily Duration Variables
Descriptive Comparisons of Changes in Means and Medians

	N	No Feedback Mean	Feedback Mean	Difference Mean	Difference SD	Difference Min	Difference Max	Difference p-value
Means								
Rest/Eating: Duration	19	0.386	0.346	-0.040	0.411	-1.074	0.643	0.673
Rest/Sleep: Duration	19	0.505	0.574	0.069	1.396	-1.964	5.179	0.831
Sleep/Nap out of vehicle: Duration	19	1.735	1.774	0.039	1.235	-1.643	3.692	0.893
Sleep/Nap in vehicle: Duration	19	1.600	1.991	0.391	1.006	-1.151	2.581	0.108
Medians								
Rest/Eating: Duration	19	0.079	0.178	0.099	0.313	-0.500	1.000	0.187
Rest/Sleep: Duration	19	0.053	0.526	0.474	1.896	-1.000	8.000	0.291
Sleep/Nap out of vehicle: Duration	19	1.145	1.487	0.342	1.407	-0.750	6.000	0.303
Sleep/Nap in vehicle: Duration	19	1.178	1.849	0.671	3.120	-4.500	8.000	0.361

Canada Study Phase 1 results

Comparisons of NO FEEDBACK and FEEDBACK conditions

Table 16: Diary Data - Mean Frequency per Day Variables
Descriptive Comparisons of Changes in Means and Medians

	N	No Feedback Mean	Feedback Mean	Difference Mean	Difference SD	Difference Min	Difference Max	Difference p-value
Means								
Rest/Eating: Frequency	19	0.372	0.398	0.026	0.313	-0.462	0.733	0.726
Rest/Sleep: Frequency	19	0.170	0.123	-0.047	0.322	-0.913	0.643	0.531
Sleep/Nap out of vehicle: Frequency	19	0.261	0.267	0.006	0.161	-0.214	0.462	0.867
Sleep/Nap in vehicle:Frequency	19	0.363	0.418	0.055	0.275	-0.279	0.933	0.396
Medians								
Rest/Eating: Frequency	19	0.263	0.316	0.053	0.497	-1.000	1.000	0.650
Rest/Sleep: Frequency	19	0.079	0.105	0.026	0.424	-1.000	1.000	0.790
Sleep/Nap out of vehicle: Frequency	19	0.158	0.263	0.105	0.315	0.000	1.000	0.163
Sleep/Nap out of vehicle: Frequency	19	0.395	0.368	-0.026	0.539	-1.500	1.000	0.834

Comparison of U.S. and Canada Daily Diary conditions and activities

Table 17: Diary results showing mean proportion of days that various conditions and activities occurred in the 2-week driving periods of both the FEEDBACK and NO FEEDBACK conditions for both Study Phase 1 (Canada) and Study Phase 2 (U.S.).

Question	Canada* No Feedback	Canada* Feedback	U.S.** No Feedback	U.S.** Feedback
Long delays for traffic	13%	11%	3%	1%
Weather problems	13%	13%	19%	30%
Slow moving on the road	13%	9%	5%	1%
Traffic jams causing slowing	16%	14%	1%	2%
Hilly roads causing slowing	6%	6%	7%	7%
Considerable crosswinds	14%	19%	8%	6%
Long wait for load assignment	16%	15%	2%	3%
Rest break to hygiene/eating	34%	37%	16%	17%
Duration of break for hygiene /eating (hours)	0.39 h	0.33 h	0.06 h	0.04 h
Sleep/nap in truck sleeper berth (Canada) or on seat (U.S.)	79% of drivers	85% of drivers	50% of drivers	30% of drivers
Duration of sleep/nap in vehicle (hours)	1.60 h	1.89 h	0.12 h	0.06 h
Day off from driving	20%	22%	33%	27%
Physical activity on day off work	21%	22%	26%	16%
FMT got driver's attention	20%	25%	20%	25%
Load and unload done by others	29%	29%	3%	3%
Driver physically loads/unloads	8%	5%	15%	14%

*Canada drivers operated single tractor-trailer units with sleeper berths. Approximately 26% of their driving was conducted during night.
**U.S. drivers operated tandem tractor-trailer units without sleeper berths. Approximately 93% of their driving was conducted during night.