Einflüsse von fahrzeuginternen Informationssystemen (IVIS) auf die Verkehrssicherheit

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COST Action 352 IVIS, WP V
Driver behaviour in real traffic conditions

Objective of Swiss contribution to WP V

- Evaluate the influence of a predetermined set of IVIS – **when used in combination** – on road safety
- Additional information provided by IVIS
  - Information overload -> safety deficit
  - Useful help -> safety gain
- Evaluate for **real traffic** conditions

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Versuchsfahrzeug: Škoda Octavia

Investigation procedure (outline)

- Identify attributes for level of road safety
  - Measurable attributes (sensors)
  - Observable attributes (investigator)
- Conduct test drives with subjects
  - w/ IVIS support
  - w/o IVIS support
- Comparative analyses

Versuchslayout: Within-subjects design

30 Jahre

	Mit IVIS	Ohne IVIS
Autobahn	1	2
Stadtgebiet	3	4

20 Personen

80 Fahrten

>60 Jahre

	Mit IVIS	Ohne IVIS
Autobahn	5	6
Stadtgebiet	7	8

20 Personen

80 Fahrten

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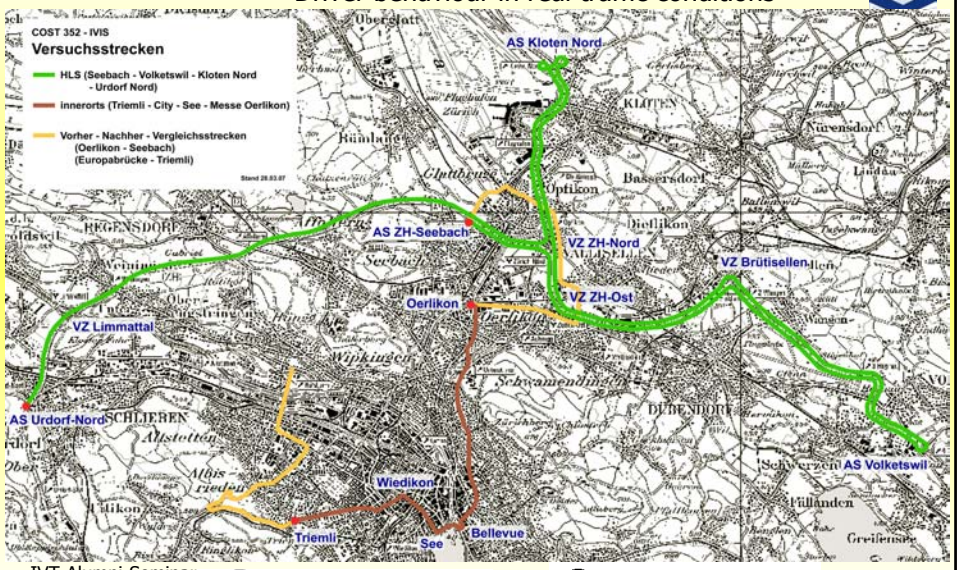

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Driver workload

ASRTT (Auditory simple reaction time task)

- Primary task: Safe driving
- Secondary task: Respond to audible signals
  - Signal generation unit
  - Steering wheel button (signal confirmation)
- Criteria for free capacity
  - Percentage of signals answered
  - Reaction time

Ausrüstung: BlackBox

BlackBox logfile

Time	Speed	Dist	BrakePos	SteerAng	AccPos	SigM	SigA	Conf	Latency	Event	AmbVol	AccX	AccY	AccZ
14:11:55.2	6.3	152.6	20.8	-11	0						-34.1	0.74	4.61	9.91
14:11:55.3	5.9	153.2	21.9	-7	0						-37.9	0.83	5.21	9.82
14:11:55.4	5.4	153.8	22.2	-6	0						-35.6	0.33	5.09	9.79
14:11:55.5	4.9	154.3	22.7	-4	0						-37.3	0.59	5.5	9.88
14:11:55.6	4.4	154.7	22.7	-4	0						-36	0.62	5.53	9.73
14:11:55.7	3.8	155.1	22.6	-4	0						-34.4	0.89	5.15	9.97
14:11:55.8	3.3	155.4	22.7	-4	0		1				-34.4	0.86	5.24	9.55
14:11:55.9	2.8	155.7	22.7	-3	0						-40.9	0.74	5.27	9.52
14:11:56.0	2.3	155.9	22.7	-3	0						-50.8	1.21	5.27	9.47
14:11:56.1	1.8	156.1	22.7	-3	0						-45	0.8	5.44	9.5
14:11:56.2	1.2	156.2	23.5	-3	0						-43.8	0.44	5.5	9.85
14:11:56.3	0.7	156.3	25.2	-3	0						-55.5	0.24	-0.8	9.64
14:11:56.4	0.4	156.3	25.6	-3	0						-43.5	0.41	5.83	9.94
14:11:56.5	0.2	156.3	24.6	-4	0						-24.7	0.15	-0.06	9.29
14:11:56.6	0	156.3	22.8	-7	0						-32.7	0.15	-3.43	9.52
14:11:56.7	0	156.3	23.2	-9	0						-38.8	0.24	-1.33	9.88
14:11:56.8	0	156.3	25.1	-4	0						-53	0.3	1.21	9.55
14:11:56.9	0	156.3	26.1	-3	0			1	1109		-56.9	0.24	-0.53	9.79
14:11:57.0	0	156.3	26.8	-4	0						-61.3	0.27	-1.57	10.12
14:11:57.1	0	156.3	27.8	-4	0						-53.4	0.33	0	9.88
14:11:57.2	0	156.3	28.9	-4	0					2	-49.9	0.27	0.15	10.09
14:11:57.3	0	156.3	28.8	-6	0						-53.4	0.18	-0.98	10.09
14:11:57.4	0	156.3	28.8	-6	0						-55.7	0.24	-0.8	9.64

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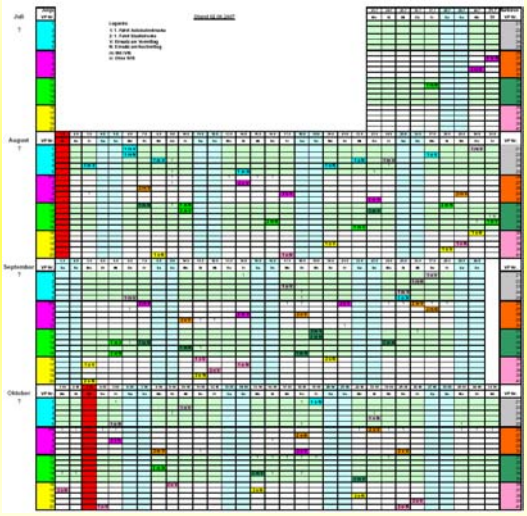
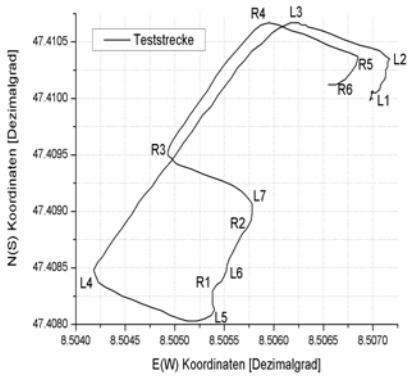


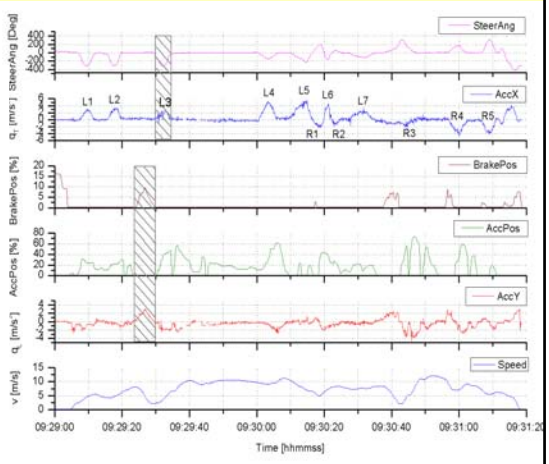
Zielführung

Beobachtungen

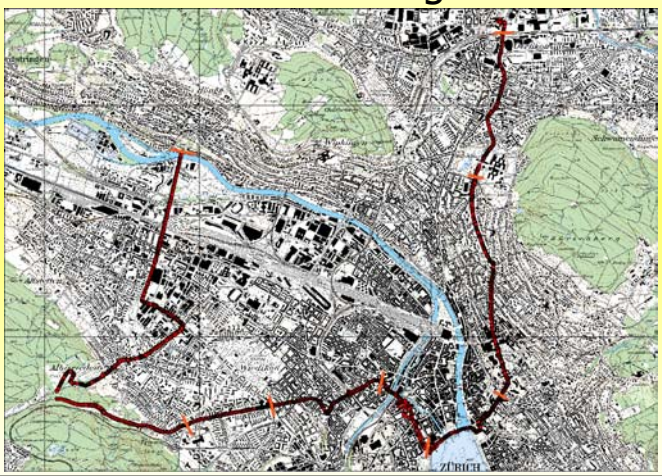
- Individualität Fahrer (Erfahrung, Können)
- Vertrautheit mit Navigationssystem
- Ablenkung durch Telefongespräch

Messgrössen





Stadtstrecke mit Abschnittsgrenzen



Datenauswertung und Analyse

- Vorarbeiten
  - Verifikation und Validierung der Daten
  - Abschnittsbildung
- Auswertung
  - Datenverdichtung zu Beschreibungsgrössen (21)
  - Statistische Untersuchungen
- Analyse
- Berichterstattung

Danke für Ihre Aufmerksamkeit!

Fragen?