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Table 1. Driving situations with descriptions and waveforms of acoustic warnings





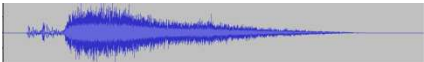





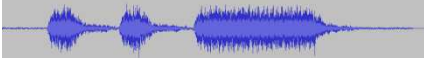


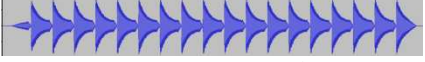
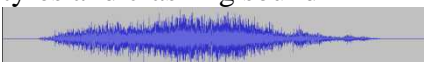
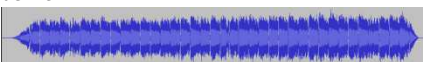
Event	Sound number	Auditory icons	Abstract alarm sounds
Low fuel	1	<p>Sound of pouring liquid</p>  <p>3.91 s, 52-11006 Hz (most energy at 52-3625 Hz)</p>	<p>Single bell ding</p>  <p>3.11 s, 8-10764 Hz (peak at 2566 Hz)</p>
Low oil	2	<p>Sound of steam and liquid</p>  <p>7.63 s, 122-10822 Hz</p>	<p>Slow, low pitched warbling</p>  <p>7.80 s, 83-11102 Hz (most energy from 83-847 Hz, peak = 536 Hz)</p>
Low tyre pressure	3	<p>Air release blast</p>  <p>2.40 s, 119-11396 Hz (most energy at 4334-8164 Hz)</p>	<p>Slow tapping</p>  <p>8.09 s, 164-11060 Hz (most energy at 1617-5622 Hz, peak = 4023 Hz)</p>
Car-door left open	4	<p>Car door opening and closing</p>  <p>4.01 s, 76-11653 Hz (most energy at 76-732 Hz, peak = 76 Hz)</p>	<p>Moderate-rate claxon</p>  <p>6.24 s, 306-11465 Hz (most energy at 1274-1739 Hz, peak = 1739 Hz)</p>
Over speed limit	5	<p>Sound of a car quickly passing</p>  <p>5.33 s, 219-11050 Hz (most energy at 219-924 Hz, peak = 219 Hz)</p>	<p>Moderate rate bell tings</p>  <p>7.73 s, 42-11515 Hz (peak = 1616 Hz)</p>
Car in blind-spot	6	<p>Three brisk car horn blasts</p>  <p>2.11 s, 97-11046 Hz (most energy at 1947-3523 Hz, peak = 3523 Hz)</p>	<p>High-rate, high pitched warbling</p>  <p>7.11 s, 97-4921 Hz (peak = 2786 Hz)</p>
Drifting off road	7	<p>Driving over “rumble strips”</p>  <p>5.23 s, 89-11010 Hz (most energy at 89-706 Hz, peak = 89 Hz)</p>	<p>High-rate, high pitched tone</p>  <p>6.70 s, 69-11031 Hz (peak = 3231 Hz)</p>
Head-way rapidly closing	8	<p>Car decelerating, screeching tyres and crashing sound</p>  <p>4.27 s, 127-11110 Hz (most energy at 686-967 Hz, peak = 686 Hz)</p>	<p>High rate high pitched pulsating tone</p>  <p>6.31 s, 6-11504 Hz (most energy at 2953-7060 Hz, peak = 3465 Hz)</p>

Table 2. Congruent and incongruent mappings for sub-groups 1 and 2

Event	Sub-group 1		Sub-group 2	
	Sound number	Congruency	Sound number	Congruency
Drifting off road	1	Incongruent	7	Congruent
Car in blind-spot	4	Incongruent	6	Congruent
Low fuel	6	Incongruent	1	Congruent
Car door left open	7	Incongruent	4	Congruent
Low oil	2	Congruent	5	Incongruent
Low tyre pressure	3	Congruent	8	Incongruent
Over speed limit	5	Congruent	3	Incongruent
Headway closing	8	Congruent	2	Incongruent