



OFFERING THE UK A LIFELINE

Road markings are the most cost-effective safety device available to road engineers. Markings guide road users, provide advance warning of potential dangers ahead and create a safer environment for all using the shared space, be they motorists, pedestrians, cyclists or motorcyclists. The humble white line can save lives and it is therefore important that they are maintained to a sufficient standard that they do their job properly. If a line is so worn that it cannot be seen, the road loses its most basic safety feature.



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National Director,
Road Safety Markings Association
(RSMA).**

We have conducted this year's LifeLines Wales survey to find out precisely what the state of road safety markings are throughout the country. The report will not make comfortable reading for those responsible for maintaining the lines on our roads. You will see in the report that over 60 per cent of road markings on Wales's motorway network are of such poor standard that they either need replacing immediately or need to be scheduled for replacement. In fairness, other types of road do score better, but none comes up to the recognised safety standard.

As with other parts of the UK, we hope that those responsible for maintaining these roads in Wales, the Assembly, will take serious note of this report and work to improve the quality of road safety markings on the roads. In doing so, they will considerably enhance the safety of roads in Wales.

**George Lee,
National Director,
Road Safety Markings Association (RSMA).**



THE SURVEY

Background

This year's survey is the eleventh national investigation published by the Road Safety Markings Association into the quality of road safety markings on Wales's roads. This year we concentrated on roads under the control of the Assembly in Wales and the findings in this report relate to site surveys carried out between July and September 2013. The survey covers a total of 600km of Assembly-controlled roads in Wales and represents the largest survey of its kind carried out by the RSMA or any other organisation.

Road marking measurement

Road markings are measured on their retro-reflectivity. A rating of 150mcd (millicandelas) is the level recommended by the industry, with road markings materials available that ensure markings remain clearly visible even at night in wet conditions. It is generally accepted within the highways sector that if the quality of road safety markings falls below 100mcd, they should be scheduled for replacement, and if the quality rates below 80mcd, they must be replaced immediately.

The RSMA is keen to ensure that these ratings for road markings are formally adopted both by the Assembly in Wales and by 22 unitary authorities throughout Wales. This will lead to consistent maintenance standards and help both the Assembly and local authorities improve road safety.

How the Survey is conducted

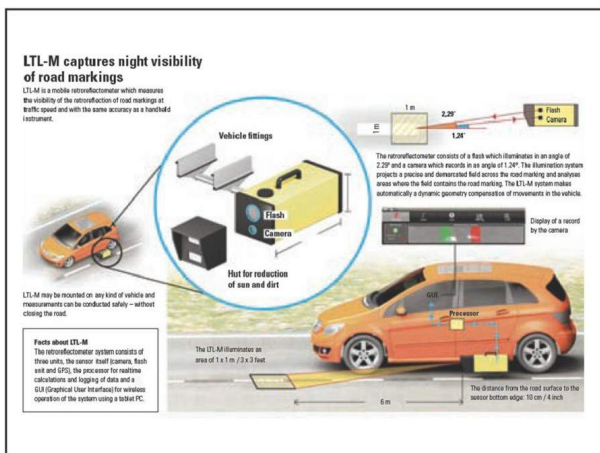
The road safety markings were surveyed using Delta LTL-M monitoring equipment operated by trained RSMA staff.

The equipment is installed on a specially equipped vehicle and includes a measurement box fitted to the outside of the vehicle, an electronic cabinet for the transmission and reception of the signals and a microcomputer for the data acquisition and processing.

Prior to carrying out any surveys the unit has a dynamic and a static calibration carried out. On site, the unit can travel at a speed of 50mph whilst achieving 100% data recovery from markings. Increasing speed reduces the percentage of results recorded to a level of significant loss at approximately 65 mph. The system takes measurements continuously with the user then selecting to average these results at intervals of between 1m to endless.

The machine emits a frequency modulated white light and captures the luminous flow retro-reflected on which the ambient lighting flow is superimposed. Appropriate processing of the signals allows the separation of the two types of light and calculation of the RL coefficients, as well as the markings' day and night time contrast with respect to the road surface.

The measurement geometry conforms to the European standard EN 1436 currently in force. It simulates the visibility of markings at 30m and corresponds to the vision perceived by the driver.



The strategic road network in Wales is managed and maintained by the Assembly and local roads managed and maintained by 22 unitary authorities. In total there are around 34,500km of roads in Wales. Reflecting rural dependence on the network, unclassified surfaced roads account for nearly half of the total road network length in Wales. Just over a third of the road network in Wales is classified as being in built-up areas. This year's LifeLines survey concentrated on roads controlled by the Assembly.

The Assembly

The Assembly in Wales looks after 75 miles of motorway and over 1,000 miles of trunk road in Wales. It works closely with local government and other bodies to improve and maintain roads throughout Wales. The Assembly is responsible for: constructing new roads and improving existing ones; renewing roads, bridges and other structures; the day-to-day maintenance, including winter maintenance.

Many transport projects and improvement schemes are carried out through the employment of consulting engineers, agent authorities and contractors.







LifeLines Wales – Assembly Results

LifeLines Wales surveyed 600km of the road network the management and maintenance of which comes under Assembly control. It found that of the road markings in this section of the network:

63 per cent of markings on motorways need replacing or need to be scheduled for replacement

Whilst only **1 per cent** of motorway markings made the “excellent” grade, a total of **36 per cent** of markings were deemed to be “good” in terms of performance, (albeit on a fairly small sample size)

Nearly half (**48 per cent**) of markings on dual carriageways need replacing or need to be scheduled for replacement



63 per cent of markings on motorways need replacing or need to be scheduled for replacement



Welsh Assembly - Total Summary	Distance Surveyed	ALL ROADS MARKS		MOTORWAY MARKS		DUAL CARRIAGEWAY MARKS		SINGLE CARRIAGEWAY MARKS	
	704.62km	(No. Results)	%	(No. Results)	(%)	(No. Results)	(%)	(No. Results)	(%)
No. Measured Results	59870	84.97%	1275	72.12%	13350	87.22%	45245	84.75%	
<80 mcd	13555	22.64%	390	30.59%	2972	22.26%	10193	22.53%	
80-100 mcd	11215	18.73%	410	32.16%	3381	25.33%	7424	16.41%	
100-150 mcd	22634	37.81%	462	36.24%	4676	35.03%	17496	38.67%	
150+ mcd	12466	20.82%	13	1.02%	2321	17.39%	10132	22.39%	



THE BEST AND THE WORST



Top Ten Best Roads

	ROAD / AREA	NUMBER MARKINGS MEASURED	% MARKINGS MEASURED	<80 mcd %	80-100 mcd %	100-150 mcd %	150+ mcd %	100+ %
WELSH ASSEMBLY- SOUTH EAST	A40 Raglan - Fishguard	1523	76%	11%	5%	7%	77%	84%
GWYNEDD	A487 Menai Bridge - A55	58	73%	2%	2%	29%	67%	97%
WELSH ASSEMBLY - NORTH & MID WALES	A487 Ffestiniog - Caernarfon	2931	88%	3%	7%	36%	55%	91%
POWYS	A44 Rhayader - Pen y bont	1097	91%	8%	7%	44%	42%	85%
WELSH ASSEMBLY - SOUTH WEST	A40 Raglan - Fishguard	6600	91%	12%	16%	33%	39%	72%
WELSH ASSEMBLY - NORTH & MID WALES	A487 Fishguard - Aberystwyth	7378	88%	18%	17%	36%	29%	65%
ANGLESSEY	A545 Beaumaris - Bangor	284	94%	5%	18%	49%	28%	77%
WELSH ASSEMBLY - SOUTH WEST	A487 Fishguard - Aberystwyth	479	80%	34%	13%	28%	25%	54%
WELSH ASSEMBLY - NORTH & MID WALES	A44 Aberystwyth - Llanguurig	3020	83%	24%	19%	38%	19%	57%
WELSH ASSEMBLY - NORTH & MID WALES	A470 Caersws - Ffestiniog	7341	86%	23%	15%	46%	16%	62%

The section of road surveyed which scored the **highest rating** with just 16 per cent of markings in need of replacing or in need of being scheduled for replacement was a section of the A40 from Raglan to Fishguard.

Top Ten Worst Roads

	ROAD / AREA	NUMBER MARKINGS MEASURED	% MARKINGS MEASURED	<80 mcd %	80-100 mcd %	100-150 mcd %	150+ mcd %	100+ %
WELSH ASSEMBLY- SOUTH EAST	A449 Newport - Raglan	665	59%	86%	7%	2%	6%	8%
WELSH ASSEMBLY - NORTH & MID WALES	Newtown - Caersws (A470)	666	83%	61%	19%	17%	3%	20%
WELSH ASSEMBLY- SOUTH EAST	A449 Raglan - Newport	1738	90%	40%	27%	28%	5%	33%
WELSH ASSEMBLY - NORTH & MID WALES	A40 Raglan - Fishguard	6562	76%	36%	18%	32%	13%	46%
WELSH ASSEMBLY - SOUTH WEST	A487 Fishguard - Aberystwyth	479	80%	34%	13%	28%	25%	54%
WELSH ASSEMBLY- SOUTH EAST	M4 Newport - M49	1275	72%	31%	32%	36%	1%	37%
WELSH ASSEMBLY - NORTH & MID WALES	A483 Pen y bont - Newtown	3223	88%	28%	19%	42%	11%	53%
WELSH ASSEMBLY - NORTH & MID WALES	A5 Bangor - Shrewsbury	7387	84%	27%	21%	42%	10%	52%
WELSH ASSEMBLY - NORTH & MID WALES	A470 Llanguurig - Rhayader	1321	90%	25%	16%	48%	10%	59%
WELSH ASSEMBLY - NORTH & MID WALES	A44 Aberystwyth - Llanguurig	3020	83%	24%	19%	38%	19%	57%

The section of road surveyed which scored the **lowest rating** with 93 per cent of markings in need of replacing or in need of being scheduled for replacement was a section of the A449 Newport to Raglan.





About the RSMA

RSMA is the largest specialist trade association in the highways sector, representing more than 90 per cent of the sector by volume it has a total of 95 member companies all of which carry relevant quality assurance as a requirement of membership. The RSMA's activities emphasise quality, health & safety and training and it has invested substantially in these areas over the past decade, in order to help highways companies and organisations to drive up sector standards and deliver higher quality in a safer manner. It has a clear focus on setting standards for its members. The association has developed a large NVQ Assessment Centre, qualifying in excess of 800 road marking operatives and has been the first organisation to introduce specialist apprenticeships in the highways sector. The centre delivers or facilitates delivery of a wide range of NVQ and training solutions for roadmarking companies. As a result, 90 per cent of the operative workforce is qualified, and there is a clear career structure now in place for the industry for both management and operatives. RSMA is the only organisation which carries out a full condition survey of the UK road markings and has been carrying it out at least every two years since 2001. The RSMA has, as an industry body, imposed standards on its sector and pushed up quality, improved training and defined specific health and safety best practice for the sector moving the sector away from inadequate and often inaccurate blanket health and safety policies.



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Full and Detailed Results at www.comparethemarkings.com