

An important study on wet weather pavement markings.

Pavement Markings— Wet Retroreflectivity Standards

This study recommended an in-service minimum continuous wet retroreflectivity level of 50 mcd/m²/lux for providing sufficient visibility during rain for most drivers. This level was based on a 60-year-old driver with 20/25 vision traveling at 60 mph at night in a 1.5 in./hr. rain and requiring a minimum 1.8 second preview time to see the marking.

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Authors:	Adam Pike, Timothy Barrette
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Minimum wet retroreflectivity (mcd/m²/lux) vs preview time and speed at low rain rate

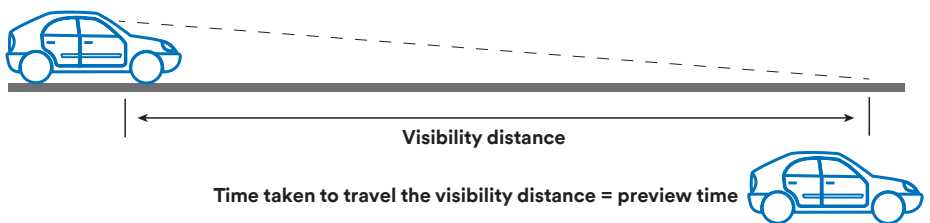
60-year-old driver with 20/25 vision	1.5 in./hr. Rainfall Rate		
	Speed (miles per hour)		
	55 mph	60 mph	65 mph
Preview Time (seconds)			
1.8 sec	30 mcd/m ² /lux	50 mcd/m ² /lux	90 mcd/m ² /lux
2.1 sec	90 mcd/m ² /lux	150 mcd/m ² /lux	400 mcd/m ² /lux

An initial minimum continuous wet retroreflectivity level of 200 mcd/m²/lux is recommended. This value was back calculated from the minimum in-service continuous wet retroreflectivity level of 50 mcd/m²/lux over 4 years using a degradation rate supplied by the Minnesota Department of Transportation.

Research studies evaluated in this study indicate significant reductions in wet weather crashes are achievable when wet weather pavement markings are implemented. The study with the largest data set indicates significant crash reductions with up to 60 percent reduction in wet-night fatal and injury crashes. Benefit-Cost ratios were estimated at 1.45 for freeways and 5.44 for multilane roads for wet reflective markings.



Situation at a point in time



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