**Pavement Marking Solution that Improves Road and Worker Safety and Reduces Carbon Emissions**

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| Rural roads contribute to nearly ¾ of the road deaths in New Zealand. Federal Highway Administration reported 51% of US rural road traffic fatalities involved roadway departures. To reduce crashes, safety infrastructure upgrades such as barriers and shoulder widening programs have been initiated. However, these countermeasures are limited in use due to the high costs over the vast rural road network. A low cost solution to help drivers stay on the road is to improve the delineation in any driving conditions: day- and night-times; dry and wet weather. Minnesota DOT traffic engineers recommended treating rural 2-lane roads with functional center and edge line markings. At 3M, we support the road safety industry needs with high refractive index materials that make liquid and preformed tape markings visible in the rain at night. Line marking solutions with 3M wet reflective optics are also 2 to 3 times more durable than conventional markings. Frequent road closures for line striping causes inconvenience to road users and exposes the construction workers to crash risks. A global best practice for high traffic density motorways in Germany had been to apply preformed tapes while the new asphalt is laid. The road owners undertake one application, tamp the tapes into the pavement and forget about them for the life of the asphalt which may range to ten years. Tape markings are higher retroreflective performance than liquid markings, function in all weather conditions and are three times the durability of conventional solutions. With 1/3 or less frequency of manufacturing and applying tape markings, the carbon emissions associated with raw material, plant energy use, transportation, application equipment and labour is corresponding reduced to 1/3. We will share global best practices at the conference for low cost lane delineation solutions to reduce road crashes, serious injuries, fatalities and achieving reduced carbon emissions at the same time.  |