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15. Abstract <u>Purpose and Need</u> The ability of a pavement marking to remain visible at night is due to the retroreflective properties of glass beads. Water on the surface of pavement markings typically reduces the marking's retroreflectivity and may cause pavement markings to become nearly invisible during wet condition. Water on the surface of pavement markings reflects light away from its source and does not allow the glass beads in the pavement marking return light to the driver. To improve a marking's retroreflectivity in all conditions, 3M Company has developed All Weather (AW) Optics to provide retroreflectivity in both dry and wet pavement conditions. These elements can be applied to all types of pavement markings. <u>Objective</u> The objective of this project is to evaluate the performance of AW Optics as part of their All Weather Paint System (AWP) and All Weather Tape (AWT), on a roadway in North Dakota in wet and dry conditions. The project will be evaluated annually for three years or until the markings are replaced. <u>Summary</u> The objective of this project is to evaluate the performance of 3M All Weather Pavement Markings on two different projects in the Grand Forks District. Initially, the segments with 3M All Weather Elements performed better than the markings with standard glass beads in both a wet and dry condition. However, after several winter seasons, all surface applied marking have lost most of their wet-night retroreflectivity.							
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