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| 14. Supplementary Notes | | | |
| 15. Abstract <u>Purpose and Need</u> The NDDOT has begun to use water-borne pavement marking paints instead of solvent-borne paints. The NDDOT desires to compare the performance of different water-borne products to the performance of solvent-borne paints. <u>Objective</u> To compare the performance and cost-effectiveness of different types of pavement marking paint. <u>Scope</u> Test sections were constructed on ramp sections with similar traffic counts and were located on both asphalt and portland cement concrete (PCC) pavement surfaces. The striping test section installed on concrete was located on the northwest ramp of the intersection of I-94 and Centennial Road. The striping test section installed on asphalt was located on the northeast ramp of the intersection of I-94 and Hwy 83 in Bismarck. The types of pavement marking paints tested were: water-borne acrylic latex (E-2706) - white and yellow, water-borne acrylic latex (E-3427) - white and yellow, and solvent-borne - white and yellow. The test sections were evaluated after approximately 26, 66, and, 261 days of exposure to traffic. The test sections were evaluated for appearance, resistance to wear, and retroreflectivity on the final evaluation. The different paints were also evaluated for relative cost of application. <u>Summary</u> <u>Test stripes located on PCC Pavement</u> Observations during the first evaluation indicated that the yellow latex E-3427 paint appeared to be performing better on a PCC surface when compared to the yellow latex E-2706 paint. However, by the second evaluation, (approximately 66 days after installation), both the E-2706 and E-3427 paint were worn away. During the third evaluation, (approximately 261 days after installation), only traces of the striping were observed near the edges of the pavement. <u>Test stripes located on AC Pavement</u> At the second evaluation, (approximately 66 days after installation), the test stripes containing the two water-borne paint systems and the solvent-borne paint system were still performing moderately well. Although all of the paint systems were showing signs of wear and fading, it appeared that there was no significant difference in performance between any of the paint systems. At the third evaluation, (approximately 261 days after installation), all systems continue to show wear and fading. Members of the research team commented that the roughness of the asphalt surface contributed to the better performance of all paint systems. <u>Recommendations</u> Given the benefit of a slight increase in wearability over the yellow latex E-2706 paint, it is doubtful whether the latex E-3427 paint would warrant any decrease in the frequency of striping operations. Also as previously mentioned the cost of the E-3427 material was more per gallon than the E-2706 material. At this point, it is would not be advantageous to replace the E-2706 paint system currently used on North Dakota projects with the latex E-3427 paint system. | | | |
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