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12. Performing Organization Name and Address NDDOT M+R <input checked="" type="checkbox"/> North Dakota DOT NDDOT OTHER* <input type="checkbox"/> Materials and Research Division NDSU <input type="checkbox"/> 300 Airport Road UND <input type="checkbox"/> Bismarck ND 58504-6005 UGPTI <input type="checkbox"/> OTHER* <input type="checkbox"/> *see supplementary notes		13. Sponsoring Agency Name and Address North Dakota DOT Materials and Research Division 300 Airport Road Bismarck ND 58504-6005	
14. Supplementary Notes			
15. Abstract Purpose and Need The use of Portland Cement Concrete (PCC) pavement or Hot Bituminous Pavement (HBP) is dictated by highway classification, whether it is rural or in an urban area, subgrade properties in certain cases, and most importantly - traffic. Typically, in areas with high ESALs, such as interstates and urban areas, PCC Pavement has been the preferred alternative when these areas are reconstructed. Within the past decade, there have been changes in pavement design methodologies and improved material properties that are intended to increase pavement performance. NDDOT desires to collect current information comparing the performance of PCC Pavement and HBP based on design methods and material properties currently in use by NDDOT. Objective The objective is to compare the performance of HBP versus PCC Pavement based on current design methods and improved materials. Scope For comparison, a section of ND Highway 13 was reconstructed with HBP and PCC pavement sections. Three different pavement sections were designed and constructed using current NDDOT practices. Segment 1 is HBP with HBP shoulders. Segment 2 is doweled PCC pavement with HBP shoulders. Segment 3 is doweled PCC pavement with PCC shoulders. Construction of the three segments will be evaluated for relative cost, quality of the finished pavement, and for ease of construction. Thereafter, the project will be evaluated every two years for a minimum period of ten years with the possibility of extending the evaluation period based on pavement performance. The HBP and PCC pavement sections were constructed as part of project NH-8-013(030)380. This project was the reconstruction of the westbound roadway of ND Highway 13, a four-lane, divided highway that is classified as an interregional corridor. The project extends 8.9 miles from I-29 to the west city limits of Wahpeton, ND. It is in a rural area with some industrial facilities on the east end of the project. The biennial evaluation will use maintenance costs, visual inspections, and the NDDOT "Pathways Van". Data collected from visual inspection will include: distresses (e.g. cracks, IRI, etc.), pavement & shoulder condition, and observed ride quality. The "Pathways Van" is a Class 3 high-speed profiler that will collect the following data: IRI (International Roughness Index) and distress score. Summary All three segments of the completed roadway show low distresses and have a good ride. However all three segments are starting to show significant more distresses than the 2010 evaluation. The "Pathways Van" data shows that there has been some loss of ride quality from initial construction. The HBP segment 1 has the highest IRI but is not far behind the concrete segments 1 and 2. With the cost of the chip seal, the HBP Segment 1 has the highest maintenance costs and the PCC section with HBP shoulders has the next highest. HBP had the lowest cost of initial construction and PCC pavement with HBP shoulders had the next lowest initial cost. PCC pavement with PCC shoulders had the highest initial cost.			
16. Key Words Asphalt pavement Concrete pavement Performance Shoulders	17. Distribution Statement No restrictions. This document is available by clicking this link: North Dakota Department of Transportation Materials and Research Division: 300 Airport Road Bismarck ND 58504-6005 Office: (701) 328-6900 Fax: (701) 328-0310	18. No. of Pages 39	19. File type Pdf