Policy Number MR 23-03

POLICY FOR PORTLAND CEMENT CONCRETE THICKNESS

Nebraska Department of Transportation

Pavement Design – Policy Letter

Approval Date: 3/13/23 By: Materials and Research Engineer

Approval Date: 3/14/23 By: Deputy Director

Pavement Design Manual Chapter affected by this policy Letter:
Chapter Two: Pavement Design Overview

POLICY FOR PORTLAND CEMENT CONCRETE THICKNESS

1. This guidance supersedes the "Portland Cement Concrete Pavement Design Policy" dated February 14, 2018.

2. The design process uses AASHTOWare Pavement ME Design software based on the AASHTO mechanistic-empirical pavement design guide to evaluate the distress of different design options. The results of the software output are evaluated and may be adjusted based on engineering judgment.

3. Mainline Rigid Pavement Design – All rigid pavement should be plain jointed Portland Cement Concrete including dowel bars at all transverse joints as follows:

a. Rural Areas – In rural areas dowel bars should be placed at 12 in. centers at all transverse joints.

b. Urban Areas – In urban areas dowel bars shall be used in all transverse joints with widths greater than or equal to 6 ft. At intersections, the joint layout will be evaluated to determine which joints should be tied or doweled.

4. Minimum Pavement Thickness – The minimum pavement thickness of Portland Cement Concrete pavement on the State Highway System should be as follows:

Interstate System..... .....12 in.

Expressway System, Based on traffic .....9 in.

All other Highways, Based on traffic .....8 in.

Maintenance Turnarounds .....8 in.

5. Final Pavement Thickness – The pavement thickness to be constructed, subject to the minimum pavement thickness defined above, will be the pavement thickness selected using AASHTOWare PMED rounded up to the nearest 1 in.

6. Transverse Joint Spacing – Transverse joints should be at 16'-6" placed perpendicular to the centerline. This spacing may be reduced in large truck parking areas. If joint spacing needs adjusted to match existing pavement the transverse spacing shall be reduced. Transverse joint spacing for concrete overlays will be described in the pavement determination.

7. Longitudinal joint spacing is covered in a separate policy letter.