

# CASE STUDY OKLAHOMA ROADS STATE OF OKLAHOMA

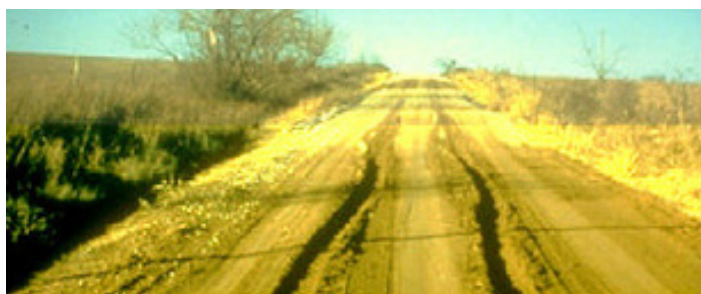
SEPARATION/ROADWAY SUPPORT



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## PROJECT SUMMARY

From 1987 – 1989 the US Federal Highway Administration (FHWA) and the Oklahoma Center for Local Government Technology tested the effectiveness of separation/stabilization geotextiles in preventing the contamination of unbound aggregate roads from subgrade soils. Nineteen unpaved rural road sites representing a variety of subgrade conditions, aggregate surfacing types, climates and construction methodologies were selected. At each site test sections with woven and nonwoven GEOTEX<sup>®</sup> were installed along with control sections. After a single wet season, several control sections lost 4 inches of new surface stone due to intermixing with subgrade soil. This resulted in loss of structural strength and severe rutting. The sections that used the GEOTEX remained in good condition. Overall the study found that the separation benefit pays for the cost of the geotextile in one year's time. Additionally, geotextiles increase the effective strength of the subgrade, improve long term stability and increase the load carrying capacity of the unbound materials. The complete findings for this study, FHWA-RT-89-050, are available from the National Technical Information Service (NTIS).



### PROBLEM

Unbound aggregate roads lose at least 4 inches of new surface stone due to intermixing with the subgrade soil



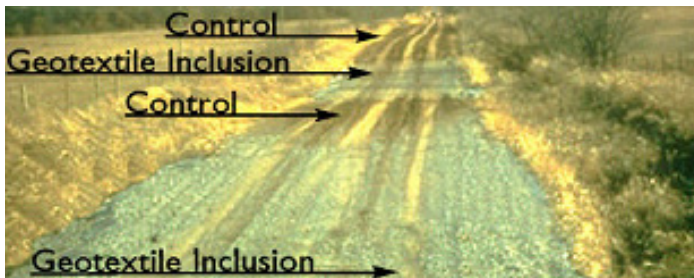
### SOLUTION

Using a geotextile layer between the subgrade soil and the unbound aggregate surfacing solves this problem



### INSTALLATION

GEOTEX was rolled out over the subgrade before the aggregate stone was placed on top



### PERFORMANCE

The sections with the geotextile layer had remained intact losing none of the surface stone

## FEATURES & BENEFITS

- Separates the aggregate from the soil, extending road life
- Cost effective in that it pays for itself within a year
- Resists biological and chemical environments normally found in soils
- Easy and quick installation
- Reduces maintenance costs
- Minimizes carbon footprint, 1 truckload of GEOTEX equals 850 truckloads of stone
- AASHTO/NTPEP Certified



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