

# **ERDC-CRREL HVS Activity**

## **Structural improvements of flexible pavements using geosynthetics for base course reinforcement**

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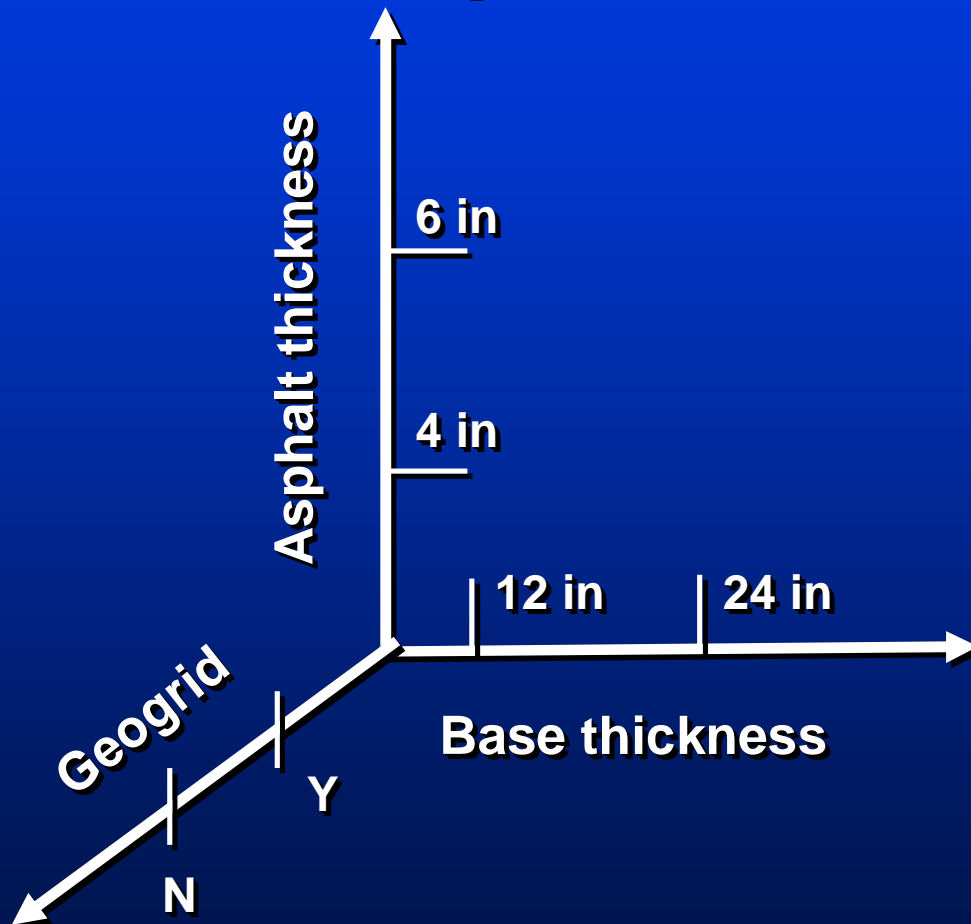
# Project Objectives

- 1. Determine conditions where geosynthetic is beneficial**
  - Increased structural capacity
  - Increased life-cycle
- 2. Measure in situ stress and strain response**
  - Under simulated traffic loading conditions
  - Incorporate this information into modifications in the AASHTO Pavement Design Guide



# Experimental Design

## Independent



## Held constant

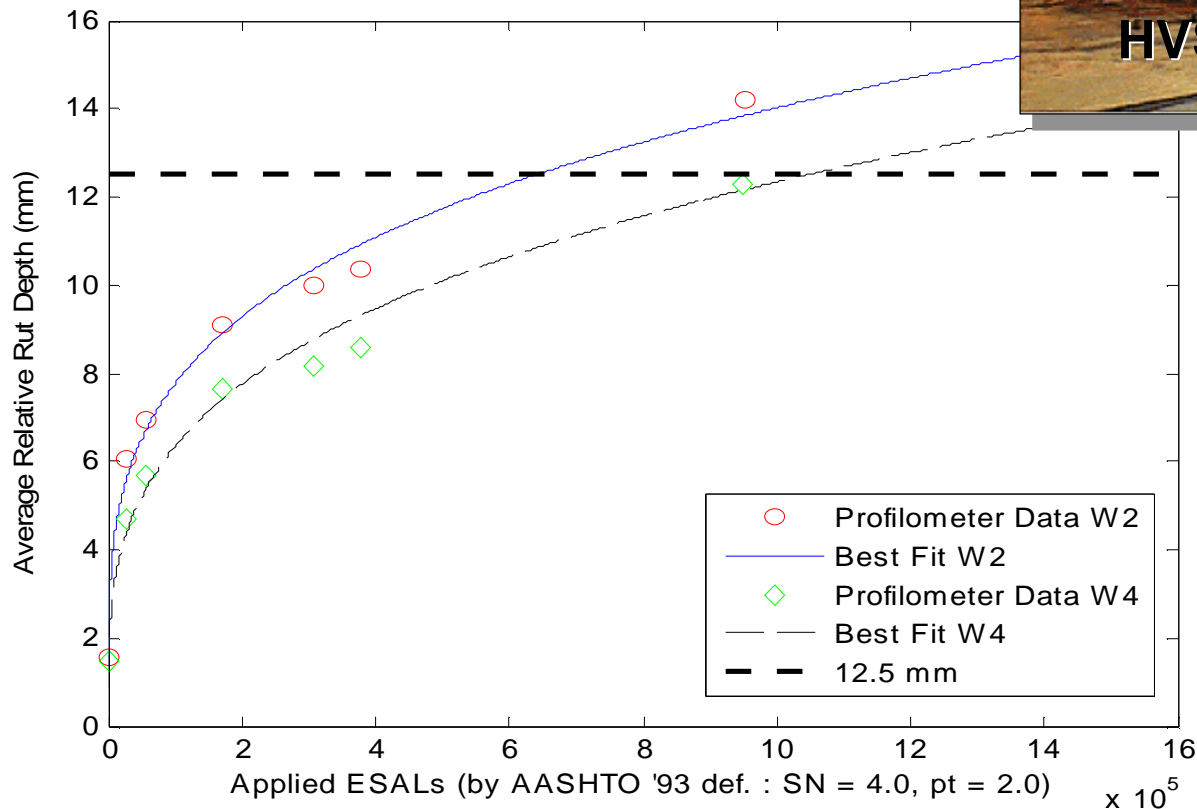
- Subgrade strength
- Location of geogrid

## Response measure

- Number of passes to failure
- Rut depth (if above is impractical)
- Other failure criteria (cracking)

# Testing in the FERF

- 4-in asphalt, 12-in base
  - No grid (Test Window 2)
  - Grid (Test Window 4)
- 22 & 32 kip axle loads



Geogrid:  
64% more ESALs  
for 12.5 mm rut  
depth

ERDC/CRREL TR 09-

Research and Development Center

# Question to HVSIA Group:

**We are currently investigating the use of the HVS on an unsurfaced test section.**

- **If you or your agency has previously conducted this type of testing, please contact me at:**

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- **Thank you!**

