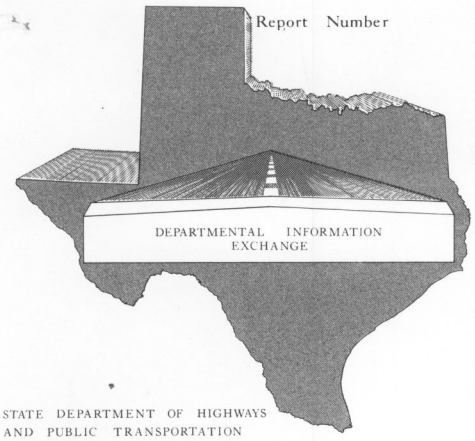


STATE DEPARTMENT OF HIGHWAYS
AND PUBLIC TRANSPORTATION

EXPERIMENTAL PROJECTS

Report Number 606-4
Supplement No. 4

EVALUATION OF SURFACE-SEALING SYSTEMS UTILIZING SEAL COATS AND POLY-FAB UNDERSEAL - FOURTH ANNUAL CONDITION SURVEY REPORT

DISCLAIMER STATEMENT

The material contained in this report is experimental in nature and is published for informational purposes only. Any discrepancies with official views or policies of the SDHPT should be discussed with the appropriate Austin Division prior to implementation of the procedures or results.

EVALUATION OF SURFACE-SEALING SYSTEMS UTILIZING SEAL COATS AND POLY-FAB UNDERSEAL

FOURTH ANNUAL
CONDITION SURVEY REPORT
FOR
EVALUATION OF EXPERIMENTAL
CONSTRUCTION PROJECT

ON

INTERSTATE HIGHWAY 40
OLDHAM AND POTTER COUNTIES
TEXAS

CONTROLS: 90-4 & 5
FROM: 0.3 MI. WEST OF POTTER COUNTY LINE
TO : 2.0 MI. WEST OF BUSHLAND

PROJECT SUPERVISION

LEWIS R. LOYD, SUPERVISING RESIDENT ENGINEER

DONALD D. DAY, SENIOR RESIDENT ENGINEER

REPORT PREPARED BY

DONALD D. DAY, SENIOR RESIDENT ENGINEER

STATE DEPARTMENT OF HIGHWAYS & PUBLIC TRANSPORTATION

DISTRICT 4

AMARILLO, TEXAS

IN COOPERATION WITH

U.S. DEPARTMENT OF TRANSPORTATION

FEDERAL HIGHWAY ADMINISTRATION

DATES OF CONSTRUCTION:
JULY 11, 1977 to AUGUST 30, 1977

FOURTH ANNUAL REPORT
AUGUST, 1981

THIS ANNUAL REPORT PREPARED AS A SUPPLEMENT TO
EXPERIMENTAL PROJECT REPORT 606-4,
SUPPLEMENT NO. 1, SUPPLEMENT NO. 2 AND SUPPLEMENT NO. 3

OBJECTIVES

To report the results of the fourth annual condition survey of the four experimental sections constructed on I-40 in Oldham and Potter Counties to evaluate the performance of various construction materials and techniques in retarding reflective cracking.

It should be emphasized that this report is, in effect, only a supplement to the initial experiment project report 606-4, Supplement No. 1, Supplement No. 2 and Supplement No. 3 and is not intended to stand alone.

REVIEW OF DESIGN SYSTEMS

Presented in brief form for ready reference are the comparative features of the four Systems.

SYSTEM I: An Asphalt - Grade 3 Aggregate seal coat was placed on the existing pavement. This was followed by a level up and a final course of Asphaltic Concrete. No Poly-Fab used.

SYSTEM II: An Asphalt Poly-Fab underseal was placed directly on the existing pavement. This was followed by an Asphalt-Grade 5 Aggregate seal coat. Then the level up and final course of Asphaltic Concrete was placed.

SYSTEM III: The level up course of Asphaltic Concrete was placed on the existing pavement. An Asphalt Poly-Fab underseal was then placed, followed by the final course of Asphaltic Concrete.

SYSTEM IV: An Asphalt - Poly-Fab underseal was placed directly on the existing pavement. This underseal was then blotted with sand. The level up and final course of Asphaltic Concrete was then placed.

Surface Course ACP: 75#/S.Y., common to all Systems.

Level up: 187#/S.Y. in left lane and 300#/S.Y. in right lane, common to all systems.

PRESENT CONDITION

A visual inspection of all sections was made in August, 1981. The following observations were made.

The normal wearing has occured in all of the test sections. Weather and traffic has continued the bleaching of the surface.

The depression of the outside lane wheel paths in all sections has remained relatively stable. There have been some minor longitudinal cracks in the outside lanes associated with this depression. This is not considered serious at this time in Systems II, III and IV.

The flushing of the asphaltic concrete pavment noted in Supplement No. I has lessened in all the sections which have Poly-Fab included in the pavement structure. Flushing has not developed in the System I which has no Poly-Fab in the section.

Some cracks have appeared in all test sections. It has not been established if these cracks are reflective. They have not required maintenance. There are transverse cracks in all sections across both the inside and outside lanes at intervals of about 40 feet. There are a greater number of cracks and they are more pronounced in System I than the other systems.

The longitudinal cracks are more nearly continuous in System I than the other systems. There are approximately three times as many linear feet of longitudinal cracks in System I than in the other systems. It is evident that the cracks are wider and deeper in System I than in the other test sections. The longitudinal cracks were about 1/2" in width and 1" deep in System I. The cracks in the other test sections were less than 1/4" wide and less than 1/2" deep.

The differences between System I and the other systems are more evident than during the previous report periods.

Captioned pictures showing the pavement for each system are included in the appendix. The previous report included views showing pavement in 1977 before overlay, 1977 after overlay, 1978 one year after overlay, 1979 two years after overlay, and 1980 three years after overlay.

SUMMARY

This fourth annual report is submitted in accordance with the procedures set out in the Evaluation Program for this experimental program. The four test sections have been continuously monitored since they were constructed in late summer of 1977.

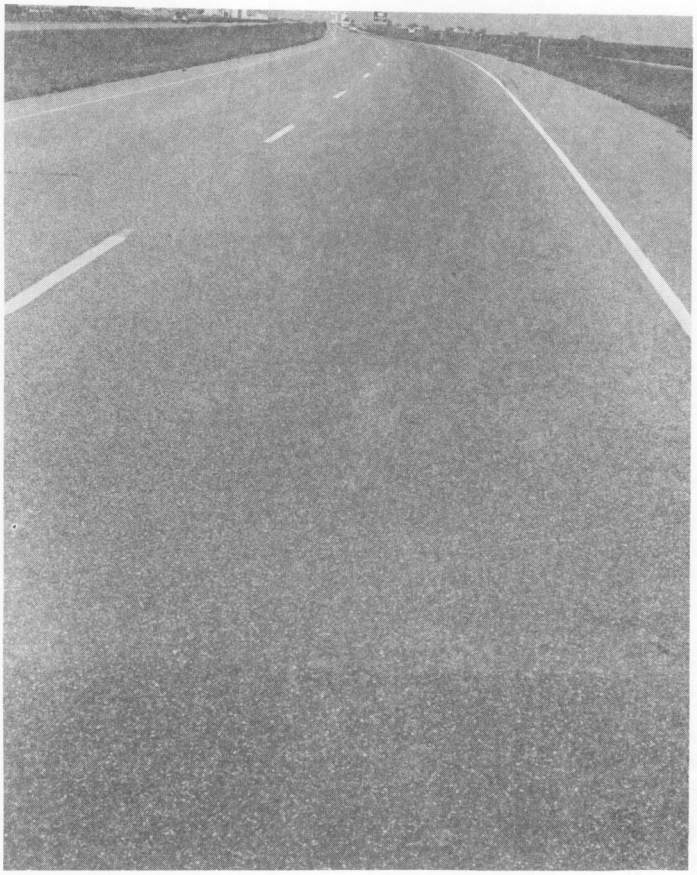
No maintenance has been necessary to date.

Volume and type of traffic has not changed significantly since construction.

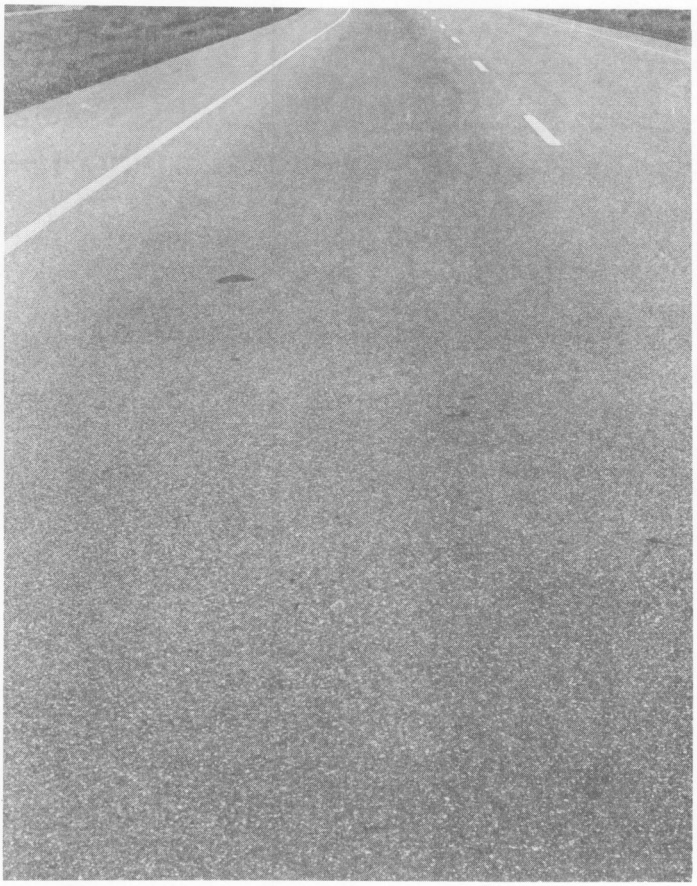
It does appear that the use of the Poly-Fab underseal has resulted in a reduction in the number and size of cracks. The initial impressions of the project indicate that this type underseal is more effective than a normal asphalt aggregate underseal in the prevention of cracking.

The observed changes that have occurred so far are not conclusive. More time is needed to definitely establish the relative merits and cost effectiveness of Poly-Fab.

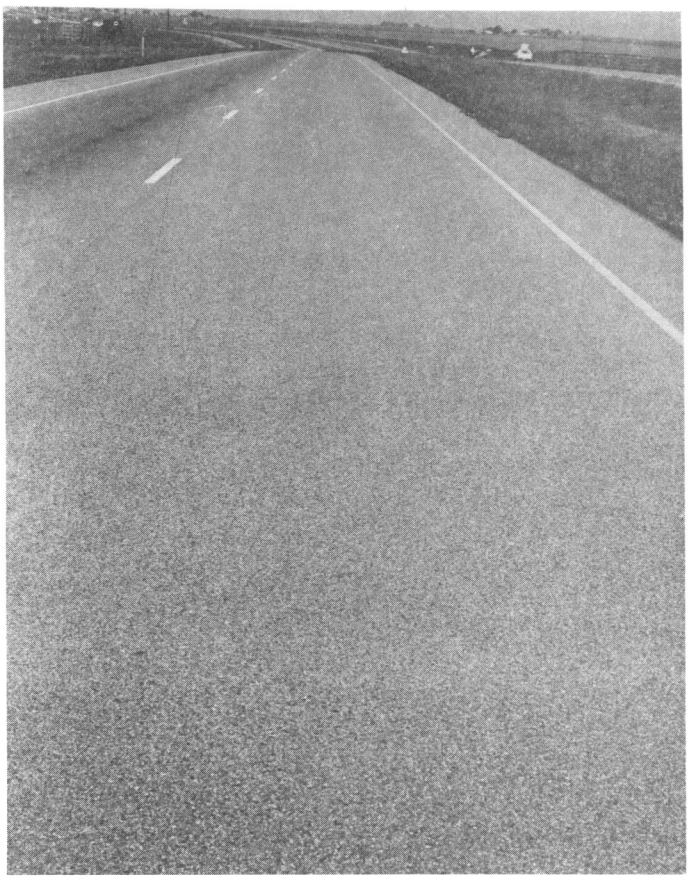
In particular, it is too early to make any conclusions in regard to the relative effectiveness of System II, III and IV, ach of which contained Poly-Fab, but involved different configurations.



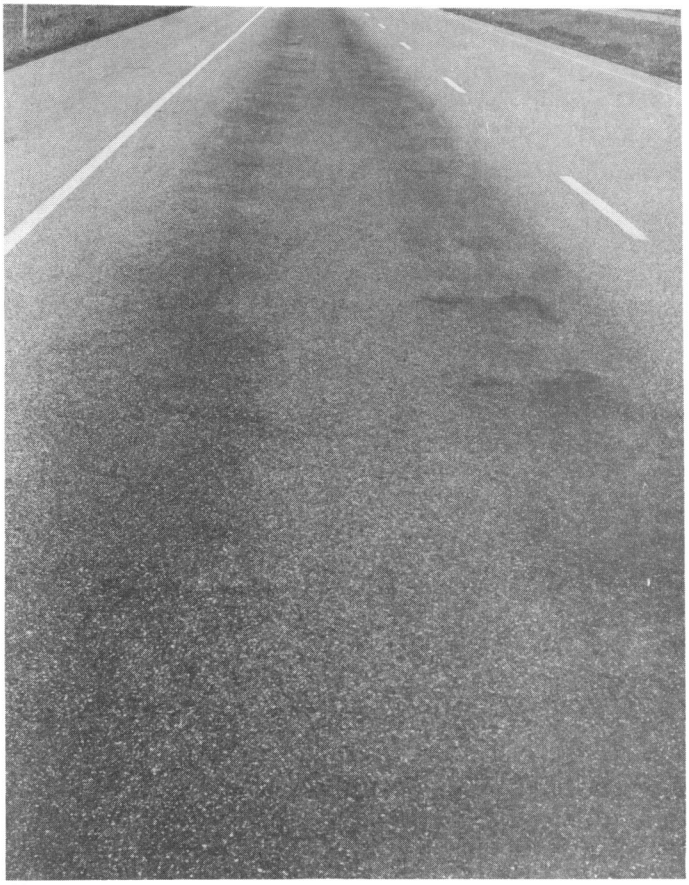
SYSTEM I - 1981
4 YEARS AFTER OVERLAY



SYSTEM II - 1981
4 YEARS AFTER OVERLAY



SYSTEM III - 1981
4 YEARS AFTER OVERLAY



SYSTEM IV - 1981
4 YEARS AFTER OVERLAY