

IOWA SHRP UPDATE No.1

Iowa Department of Transportation
Highway Division
Office of Materials
5-89

INTRODUCTION

The purpose of this update is to keep you informed of the activities regarding the Iowa DOT involvement in the Long Term Pavement Performance (LTPP) portion of the Strategic Highway Research Program (SHRP). LTPP is a study whereby existing or newly constructed highways across the U.S. are analyzed and will serve as the basis of pavement designs in the future. Current design procedures are based on data obtained at the AASHTO Road Test. While the AASHTO Road Test consisted of actual traffic on experimental road sections the traffic was greatly accelerated and environmental effects were not considered. The LTPP experiment will consider these variables and hopefully result in more refined design procedures and performance predictions.

It is our intention to publish this Iowa SHRP UPDATE on a monthly basis until such time that activities regarding this program become routine.

GPS SITES

Iowa currently has 9 GPS (General Pavement Studies) marked with signs and pavement markings, and which have been field verified (see Table 1 below). A tenth site, Iowa 96 in Tama County, has been marked in the field but will require further investigation before acceptance.

SHRP had initially requested that test pits be opened for each of the GPS sites. The guidelines have now been changed to where test pits will be required for AC GPS sites only. This does not mean, however, that pavement sampling will not be done at PC sites. More information on the test pit operations should be available soon.

Routine maintenance such as crack cleaning and sealing is allowed at the GPS sites. More intense maintenance such as patching and overlay should not be performed without contacting SHRP personnel. As a general guideline, any operation which will obliterate the pavement surface should not be performed without notification of SHRP. The intent is to allow sufficient time for additional condition surveys to be conducted prior to covering or changing the surface substantially.

If in doubt about performing maintenance at a GPS site, please contact Dwight Stevens, phone (515)239-1513, Office of Maintenance.

TABLE 1
Current SHRP Sites

SHRP#	DIST	County	Route	DIR	MILEPOST	
JOINTED PAVEMENTS						
193055	1	Hamilton	US 20	WB	152.04	151.95
193033	6	Johnson	US 218	NB	86.35	86.45
193006	6	Clinton	US 30	EB	318.30	318.40
193028	6	Johnson	US 218	NB	95.23	95.33
193009	6	Linn	I-380	NB	18.89	18.99
CONTINUOUS REINFORCED PAVEMENTS						
195046	2	Franklin	I-35	NB	155.40	155.50
195038	6	Scott	I-74	EB	4.05	4.15
ASPHALT PAVEMENTS						
196041	1	Tama	IA 96	WB	12.60	12.50
196049	6	Cedar	I-80	WB	261.48	261.38
191044	6	Buchanan	US 20	EB	266.76	266.86*

*New location, see below

GPS SITE MOVED

US 20 in Buchanan and Delaware Counties is programmed for overlay from IA 187 to IA 13 this year (to be let June 27). This includes the GPS site initially located at milepost 268.55 to 268.65. Because this site is in the GPS experimental cell concerned with non-overlaid A.C. pavements, it became desirable to either gap the overlay at the present GPS location, or if possible, relocate the section at the end of the overlay. Location of a site can be difficult because of the factors considered such as site distance, grade, cut and fill sections, subgrade treatment sections and others. In this case a suitable location was found near the beginning of overlay project, and the site was relocated. Its new location is from milepost 266.76 to 266.86, stations 842-847 in the eastbound driving lane. This is between exit and entrance ramps for the IA 187 interchange.

Additional GPS Sites

Iowa has added two additional GPS sites. One in District 6 in Scott County on Interstate 80 westbound at milepost 303.38 and 303.29. The other is located in District 2 in Worth County on Interstate 35 at milepost 216.75 to 216.84.

These sites will be included in GPS-7, AC overlay of PCC. These sections have been identified and marked prior to overlay placement to obtain a condition survey prior to overlay. They will be marked again after placement of the overlay for identification and location pur-

poses. Maintenance guidelines for these sections will be the same as other GPS sections.

TABLE 2
Additional SHRP Sites

SHRP #	DISTRICT	COUNTY	ROUTE	DIR	MILEPOST	
199126	6	Scott	I-80	WB	303.38	303.29
199116	2	Worth	I-35	NB	216.75	216.84

SPS

Iowa plans to participate in the SHRP SPS (Specific Pavement Studies) as well as GPS. The purpose of SPS experiments is to develop comparisons between pavement design factors on a controlled basis, or stated another way, hold all pavement design factors constant except for one. An example could be variations of overlay thickness within a short section. These sites will require special design and construction.

Iowa is presently working with SHRP to establish an SPS-7 experiment in Iowa. This experiment involves various rehabilitation treatments for PC pavements prior to overlay with AC in combination with varying thickness of AC overlay.

The proposed site for an SPS-7 experiment in Iowa is on I-35 southbound in Polk County. This project is to be let June 27, 1989.

FUTURE SITE ACTIVITIES

Iowa SHRP sites are tentatively scheduled for sampling and testing by the SHRP regional contractor sometime after mid-August. This will include coring, boring, and structural evaluation with a Falling Weight Deflectometer (FWD). Test pits on AC test sections, if approved, would also be opened at this time. This will be the most intensive testing performed at the SHRP sites and traffic control will be required by Maintenance forces. More information on the procedure and the schedule should become available as the contractor proceeds with the testing program in other states. The contractor is scheduled to begin testing in Minnesota next week.

Pavement evaluation by a Profilometer and a PASCO unit are also planned for late summer or early fall. Both these units operate at or near highway speed and should, therefore, cause little if any disruption. The PASCO unit produces a high resolution strip photograph of the pavement surface. Because control of lighting is critical, it operates mainly at night. The Profilometer will collect and record pavement profile information for smoothness evaluation and comparison.

WEIGH-IN-MOTION (WIM) AND TRAFFIC DATA COLLECTION

To adequately analyze pavement performance, it is necessary to know what traffic loadings are taking place. Currently, the SHRP staff feels that traffic data collection must be gathered at the test site. The position of the Planning and Research Division is that adequate data can be gathered from nearby sites. This issue has yet to be resolved.

TIME AND EXPENSE REPORTING

All time and expenses related to SHRP activities should be reported to Function 777, Project Control No. 72 00 1054 -000.