IOWA SHRP UPDATE No. 8

Iowa Department of Transportation
Highway Division
Office of Materials
February 1994

GPS-General Pavement Study Activity

Current activity on Iowa's GPS sites involves placing delineator posts with three blue reflectors at the beginning of each site and two blue reflectors at the end of each site. These blue reflectors are for the PASCO unit, which operates at night. PASCO, Falling Weight Deflectometer (FWD) and GM Profilometer periodically test GPS sites, so it is important to paint GPS sites after the winter months. It is also important to keep paint markings legible throughout the year.

Materials sampling and testing activity has been completed on Iowa's GPS sites. Long Term Pavement Performance (LTPP) test data on GPS sites is now available. SHRP activity has shifted from GPS sites to SPS activity.

SPS-Specific Pavement Study Activity

SPS-1 - Strategic Study of Structural Factors for Flexible Pavements

SPS-1 was built in 1993 and the pavement is marked. All SPS sites will get blue reflectors mounted on delineator posts at each test section in 1994. Small signs for each test section will also be placed in the right-of-way (fence) line.

Test section No. J7 had very poor FWD readings and had the following cross-section:

2" Type A Surface
2" Type A Binder
4" Permeable Asphalt Treated Base
4" Special Backfill, 4" Subdrain

Cracking was evident, and J7 had ½" ruts. Large signs warning of the experimental nature of the SPS-1 test sections were placed at the beginning and end of the SPS-1 project. A news release was also prepared. Since hot mix asphaltic concrete patching material may not be available in

the winter and spring months if a pavement failure occurred, a decision was made to overlay J7 with 3" of asphaltic concrete. J7 will stay in the SPS-1 experiment as a rehabilitated test section.

SPS-2 - Strategic Study of Structural Factors for Rigid Pavements

SPS-2 is located on relocated US 65 from Rising Sun Road northerly to I-80 along the east side of Des Moines. SPS-2 will be constructed in 1994. Weigh-in-Motion (WIM) equipment will be installed in 1994 or 1995.

SPS-3 - Preventive Maintenance Effectiveness of Flexible Pavements

The SPS-3 site on IA 196 in Sac County is completed so there is no new or recent activity concerning SPS-3. The SHRP contractor will periodically monitor performance of the test sections compared to the control section.

SPS-4 - Preventive Maintenance Effectiveness of Rigid Pavements

SPS-4 sites on US 20 in Hamilton County and on I-380 in Linn County are completed. SPS-4 involved cleaning and sealing joints with a silicone sealer and a control section. SHRP contractor will periodically monitor performance of the test sections compared to the control section.

SPS-5 - Rehabilitation of Asphalt Concrete Pavements

Iowa does not presently have a SPS-5 candidate.

SPS-6 - Rehabilitation of Jointed Portland Cement Concrete Pavements

The SPS-6 site is completed so there is no new activity concerning SPS-6. Maintenance work has been reported on SHRP data collection sheets by the RME. The SHRP regional contractor will periodically monitor performance of the test sections compared to the control sections.

SPS-7 - Bonded Portland Cement Concrete Overlays of Concrete Pavements

Iowa's SPS-7 project on I-35 NBL in Hamilton County was built in 1993. All data sheets have been completed and submitted to the SHRP North Central Regional contractor.

SPS-8 - Study of Environmental Effects in the Absence of Heavy Loads

Iowa does not presently have a SPS-8 candidate.

Traffic Data Collection Status

Most WIM installations have been out of service the past six months due to flooding. The weight and traffic data is either bad or non-existent. The most frequent problem is splices in the shoulder. They must be dug up and repaired. Software has had some problems and has been replaced, but there are no instructions.

Altered Marking

The SHRP national data base requires some record-keeping changes. This affects Iowa as follows:

SPS-6 (built 1989)
190609 to 190659
SPS-7 (built 1993)
190710 to 190759

Upcoming Meetings and Field Trips

John Selmer replaces Dwight Rorholm on the SHRP Regional Expert Task Group for SPS-3 and 4. This involves a trip to Canada in May 1994 and a trip throughout the SHRP North Central Region in October 1994.

There is a two-day meeting in Denver, Colorado on March 24, and 25, 1994 for Information Management System coordinators. Kevin Jones or someone from Pat Cain's office will attend.

There is a SHRP Asphaltic Concrete Superpave Conference in October in Reno, Nevada. About 500 people will attend. Bernie Brown is on the program and will attend. John Heggen will also attend. There will be discussion on how they settled on design and mix properties and why.

Brian McWaters is on a SHRP LTPP advisory group of 20 people. No AASHTO people are in this group.

Iowa DOT personnel are on all SHRP advisory groups except the asphaltic concrete advisory group.

Lee Smithson went to Chicago for a pothole machine demonstration. It cost $350,000 and is located at Northwestern University. More money and research is required.

SHRP Testing Equipment

Almost all of the equipment for testing SHRP Performance Grade asphalt cement binders has been acquired and is being utilized. Four asphalt suppliers have been asked to submit samples of PG 58-34 binder. DOT and supplier results will be compared.

SHRP equipment (gyratory compactor) for designing SUPERPAVE asphalt mixes is not currently in place. We are participating in an equipment pooled-fund project with the FHWA for acquisition of this item. Late 1994 delivery is anticipated.

SHRP Cost Accounting Emphasis

All SHRP costs should be charged to function code 777. This includes time and expenses associated with traffic control, painting SHRP site lines, pavement testing activity, project history research, construction inspection, materials sampling and testing, etc. Project Control No. 72-00-1054-000 should be used for all SHRP work except work pertaining to the SPS-3 in Sac County. SPS-3 related worked should be charged to Project Control No. 72-00-1056-000. It is important that all SHRP-related time and expenses be recorded so that an accurate cost of the program can be obtained.

If you have any questions concerning this SHRP update or SHRP in general, please contact one of the following:

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Charles Potter - 515-239-1309

SHRP GPS 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	317.30	317.40
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
195042	2	Wright	I-35	NB	152.20	152.30
ASPHALT PAVEMENTS						
196049	6	Cedar	I-80	WB	261.48	261.38
191044	6	Buchanan	US 20	EB	266.76	266.86
196150	3	Sac	IA 196	NB	Sta. 646	651
ASPHALT OVERLAY OF PC PAVEMENT						
199126	6	Scott	I-80	WB	303.38	303.29
199116	2	Worth	I-35	NB	216.75	216.84

SHRP SPS Sites

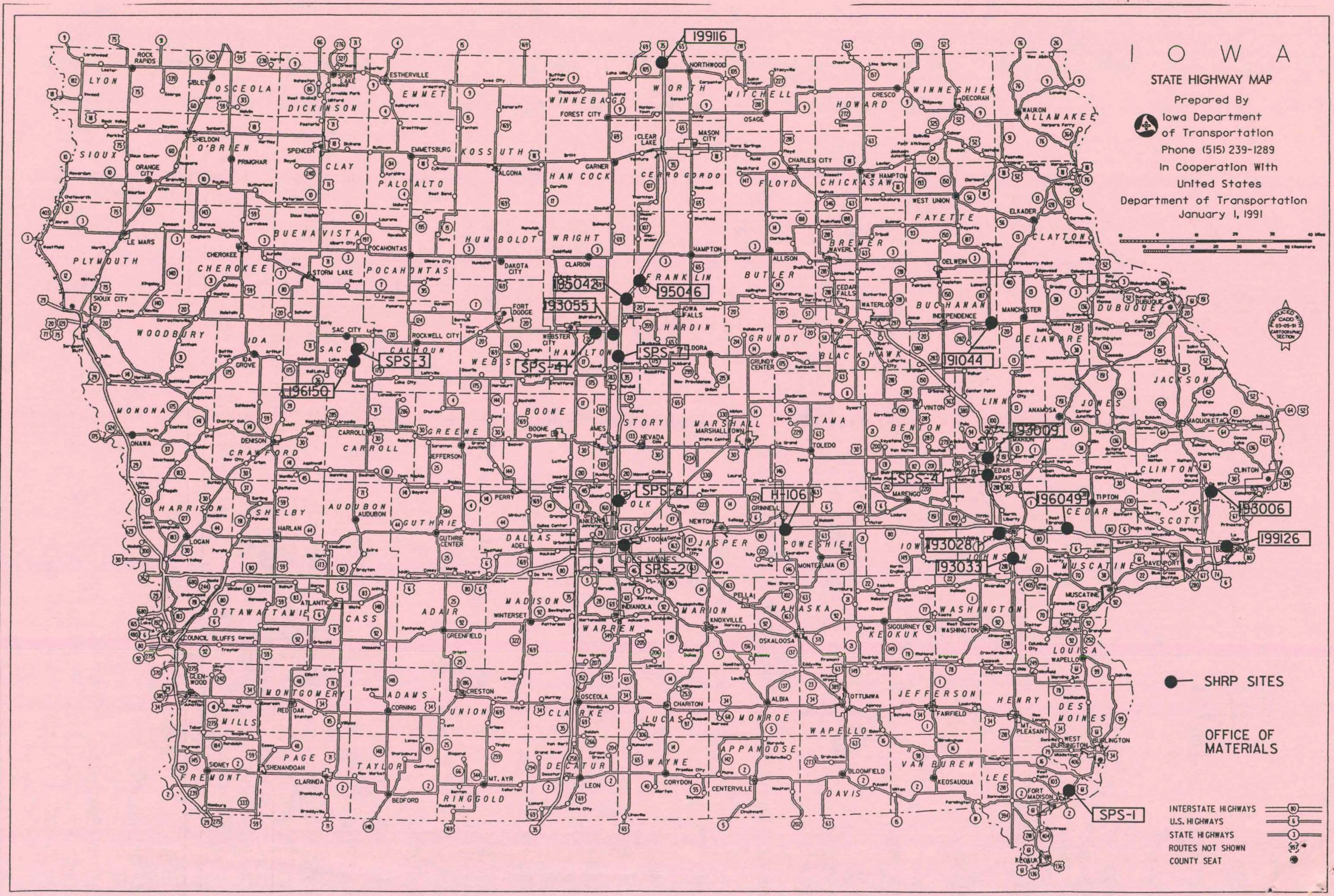
SPS-1	5	Lee	US 61	SB	30.32	25.40
SPS-2	1	Polk	US 65	NB	Sta. 475	593
SPS-3	3	Sac	IA 196	NB	Sta. 657	710
SPS-4	1	Hamilton	US 20	WB	Sta. 1025+40	1020+40
					Sta. 1032+40	1027+40
SPS-4	6	Linn	I-380	NB	Sta. 246+10	251+10
					Sta. 253+10	258+10
SPS-6	1	Polk	I-35	SB	98.82	94.75
SPS-7	1	Hamilton	I-35	NB	134.14	140.19

Acronyms

CPR - Concrete Pavement Repair
FWD - Falling Weight Deflectometer
GPS - General Pavement Study
LTPP - Long Term Pavement Performance
SHRP - Strategic Highway Research Program
SPS - Specific Pavement Study
WIM - Weigh-in-Motion

****Numbers****

SHRP Function Code - 777
Project Control No. for all SHRP activity **except** SPS-3 72-00-1054-000
Project Control No. for SPS-3 72-00-1056-000


I O W A
STATE HIGHWAY MAP
Prepared By
Iowa Department of Transportation
Phone (515) 239-1289
In Cooperation With
United States
Department of Transportation
January 1, 1991
199116
95042
95046
193055
SPS-7
SPS-3
SPS-4
196150
191044
193009
SPS-4
SPS-6
H-106
196049
193006
199126
193028
193033
SPS-2
SPS-1
SHRP SITES
OFFICE OF MATERIALS
INTERSTATE HIGHWAYS
U.S. HIGHWAYS
STATE HIGHWAYS
ROUTES NOT SHOWN
COUNTY SEAT